THE

AMERICAN FARMER:

DEVOTED TO

Agriculture, Horticulture, and Rural Economy.

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"O FORTUNATOS NIMIUM SUA SI BONA NORINT
"AGRICOLAS." . . . . . *Virg.*

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DECEMBER.

"Not undelightful now to roam,
The wild heath sparkling on the sight;
Not undelightful now to pace
The forest's ample round;

And see the spangled branches shine,
And mark the moss of many a hue
That varies the old tree's brown bark,
Or o'er the gray stone spreads.

The clustered berries claim the eye
O'er the bright holly's gay green leaves;
The ivy round the leafless oak
Clasps its full foliage close."

Work for the Month.

We are mainly concerned now to finish up the year's work, and to make all around us safe from frost and storms. We need but to remind the reader of what we have said before on all necessary points, and close our suggestions for the season.

THE CORN CROP.

Let this be now, as early as practicable, got under lock and key. Have a correct account kept of quantity put away, and of that consumed by hogs and other fattening stock. At the same time, take proper care of shucks and other fodder, having it properly secured where there may be ready access when wanted.

TOBACCO CROP.

Get the crop stripped as "seasons" offer, and look well to its neat and careful handling. The careful sorting of the several qualities, the pressing of the bundles into the shape they should keep in the after handling, neatness and order in laying the bulks, and watchfulness to prevent heating and discoloring in the bulk, are all matters that need attention from time to time. The tobacco stalks should be kept quite dry until taken to the field for use as manure.

PLOUGHING.

Take such opportunity as the state of the weather admits to break stiff sod land that may be required for the spring crops—leaving it rough of course for the better action of the frost.

THE STOCK YARD.

Stock of all sorts being now in our more special charge by confinement to the yard, must of course be specially looked after.—There is no need that cattle of any kind should lose flesh and come out in spring poor, as is much too common. Prevent this by giving at once such care in the way of shelter and good food as their comfort and health demand. Avoid the error too of putting stock on the most indifferent provender early in the season, when the appetite is less able to take it, on account of the recent change from grass. Aim to keep them well up to the condition at which they come from the pasture, and you will find in this the best security against the casualities of the spring.

WORKING STOCK.

Give horses and mules that work, sufficient food and proper grooming. Ample stable room, clean bedding, and a free use of brush and curry-comb, rubbing dry and cleaning their feet and legs after the day's work, is the care they need.

Feed working oxen where they may take their food without interfering with other stock, or being interfered with.

CALVES.

Calves should be kept in growing condition by giving comfortable quarters under shelter, dry beds, and the best hay or corn fodder, with a little bran daily.

COWS.

Give these, if milk is expected of them, the best long provender, a little bran and meal mixed, and sugar-beet or ruta baga.

SHEEP.

Allow sheep to range the pasture ground in all good weather, but provide shelter against rain and storms. Provide them troughs for oats and bran when needed, and for regular salting.

HOGS.

Pen hogs will now be fat enough to kill. Breeding sows and store hogs must be kept in good order during winter. Keep them from lying in manure heaps and filth of every kind, and provide dry sleeping places.

MANURES.

Take all opportunities to gather into the yard or compost heap, materials for manure.

The Vegetable Garden.

DECEMBER.

The garden needs little attention beyond closing up the work suggested heretofore.

Plants in Frames.—Give air to all plants in frames by raising sash when the weather is mild. Cover at night with mats, when it is severe.

Composts.—Prepare such composts as the garden may need, and carry them, at convenient times, to the ground where they may be wanted.

Digging.—Dig stiff clays that the frost may have full action, and trench if practicable.

The Flower Garden.

All out-door operations will be now concluded, except that hardy shrubbery may still be planted when the ground is open.—Box edging may be put down. Let borders be well spaded and covered with a compost made of old sods, leaf mold, and stable manure well rotted.

The Fruit Garden.

In the fruit garden, throw long litter of any sort arround the roots of newly planted trees, but not thick enough to afford harbor for mice.

Pruning.—Prune hardy trees, scrape moss off the bark, and clean away sprouts that may have sprung up at the roots.

Stirring Soil Around Trees.

The opening or lightening the soil around the roots of trees, either in the spring or fall, for the purpose of letting in warmth, and affording a freer medium for the expansion and development of the roots, is of great value in promoting the health and vigor of the tree. All trees, whether fruit or ornamental, young or old, indigenous or exotic, are vastly benefited by this process. In old orchards, the soil about the trunks of the trees, and to a considerable distance from them, in every direction, should be carefully broken, and the upper surface, to the depth of three or four inches, removed in the spring, every four or five years. The eggs of the curculio and other insects, are deposited in this stratum, and if not removed or destroyed, will produce insects, the ravages of which the succeeding year will be productive of far greater loss than the expense of removing the soil and replacing it with compost or loam. It is an utterly hopeless undertaking to attempt the cultivation of good fruit, when no measures are resorted to to obviate the fatal ravages of this detestable and insidious foe, and the remedy now suggested is by no means expensive, if we take into consideration the advantages otherwise resulting to the trees from its application.

Any good soil, taken from the open fields or cultivated lands, may be used as a substitute for compost, and a very small quantity will suffice. Even if no fresh matter is applied, I would recommend the removal of the surface soil, and would replace it when convenient. Chip manure, or old dung covered with straw, answers well for this purpose.—*Cor. Germantown Telegraph.*

If I am not so happy as I desire, it is well I am not so miserable as I deserve. I have received much more good than ever I have done, and done more evil than I have ever suffered

Orchards.

We are gradually progressing and yearly learning to better and better understand our climates and soils, our trees and vines; and as we progress and come to know our own, we throw away much of the early-day teachings that were brought to us from across the broad ocean. Our vine-growers commencing with their vines at three to four feet, have gradually expanded them, until now the majority of planters give to them eight by ten or ten by twelve, and some even more, according to the soil and the habit of the sort. So, also, beginning with severe winter and summer pruning, from which they obtained a little fruit, sunburnt and half ripened, and produced various diseases in the system of the vine, they have come to a knowledge of the vine's nature, and by almost leaving it alone are rewarded with luscious fruit and healthy foliage. In the apple and pear orchard we have been brought to place the first from thirty-five to forty feet apart, and the latter, twenty-five to thirty, thus subjecting them to all the terrible burning heat of the sun's rays, in a long, hot summer's drought, and to stand as it were alone, and brave singly the storms of wind that winter and spring bend their tops, and crack and tear loose, by leverage, their roots.

We have long been impressed with the view that these old advices of distance were erroneous, and our readers will bear us witness that we have before now advised a closer planting, and as a break, also, and aid toward shielding our fruit trees, the intermingling more or less in the orchard of evergreens.

Our own practice has been most successful in apple orchards at twelve by sixteen feet, and we have known the best results from a like distance by some extensive orchards in the West. The past two years we have doubted if even this distance had not better be reduced, and in exposed, bleak, wintry situations, on prairies or bluffs, we are satisfied it had. The closer trees are planted to each other, the more do they assist each other in breaking the force of the wind, and in gradually ameliorating the climate. They will sooner shield and shade the ground and their roots, retaining thereby a greater relative proportion of moisture and food, they will come sooner into maturing and fruiting their blossoms; and as they increase in size will acquire the rough bark that comes with maturity and belongs to them in health, so that they become too thick for the light to keep them round and full in the contour and extension of branch, they will be the better enabled to stand alone, while the fruit that has been gathered from the trees requiring removal will be found to have more than repaid the first cost of the whole orchard.

Were we to plant an apple orchard to-day, we think we should set our trees ten by fifteen feet, and if of standard pears, ten by ten feet; if of dwarf pears or apples, six by eight feet, and we would use occasionally an evergreen tree of some hardy variety in the place of a fruit tree.—*Horticulturist.*

Pleasures of Gardening.

The pleasures arising from the culture of flowers are harmless and pure; a streak, a tint, a shade becomes a triumph, which, though often obtained by chance, is secured alone by morning care, by evening caution, and the vigilance of days. It is an employment which in its various grades excludes neither the opulent nor the indigent; teems with boundless variety, and affords an unceasing excitement to emulation, without contention or ill-will.

There is no other pursuit alike calculated for peer or peasant in which the distinctions are so trivial, for the cottager may possess and enjoy the same beauteous rose or fragrant mignonette in his little plot or his window, that occupies a place in the garden of the richest. The clear light of heaven, the sweet fresh air, the verdure of the fields, the delicacy of form and richness of color with which bounteous nature supplies us on every side, in the almost inexhaustible variety of her horticultural and floral treasures, are all sources of the most unalloyed pleasure; and it is a wise dispensation of the Giver of all Good, that this gratification of the senses of sight and smell, whilst beholding the elegant shape of plants and inhaling the exquisite perfume of their flowers, is an enjoyment within the reach of all who choose to seek it. There are few surer tests of a happy home within, than the flower-decorated window and neat kept garden; and there is no occupation for the leisure hour more calculated to keep it so, or to soothe the mind. It yields pleasure without surfeit; the more we advance the more eager we become. And how unlike this to most of our wordly engagements.—*Gar. Mag.*

An Essay on Grasses.

For the Southern Central Agricultural Society.

BY C. W. HOWARD, KINGSTON, GA.

(Concluded from November No.)

No. 2. *White Clover.*—This plant succeeds well in all parts of the State. As a pasture grass, it comes early in the spring and continues late in the fall. It is a valuable fertilizer. It is undervalued as a hay grass, because its growth is small when it occupies the ground by itself; but if sowed with the taller grasses it is forced upwards and gives a heavy cutting near the ground, a point in which most hay grasses are deficient.

No. 3. *Crimson Clover—Trifolium Incarnatum.*—This plant has thriven very well with me during the past season. It is much earlier than the common red clover. I am unprepared to express an opinion as to its value, as it has been under trial only one year. From the rapidity and vigor of its growth, and the light feathery character of its seed, in consequence of which it may readily be scattered by winds and birds, it is possible that it might spread rapidly and be of value. Loudon says of this grass: "It grows all winter, and early in the spring affords abundant food for sheep; or, if left until May, it presents a large crop for the scythe, and may be used for soiling or cutting into hay." This clover is much used in climates similar to our own, as France, Spain and Italy. This fact affords a presumption that it will be of service to us.

No. 4. *Sainfoin.*—This plant is much grown in similar climates with the crimson clover. The high estimate placed upon it in France, has occasioned its significant name. I sowed nearly an acre of it last spring, but failed of success. This was a disappointment as I had hoped for great results from the experiment. I have sown it again this fall. The possibility of its introduction into our husbandry is too important to be decided by one adverse result, which may have been the effect of causes which another experiment may remove. It is possible that it may be successful in Middle Georgia. It is worthy of careful trial. There may be varieties of this plant which would succeed better than the one tried by me. I will quote a few authorities to show the value which is attached to this plant where it can be cultivated.

Loudon says: "It has been long cultivated in France and other parts of the continent, and as an agricultural plant, was introduced from France into England about the middle of the 17th century. Its peculiar value is, that it may be grown on soils unfit for being constantly under tillage, and which would yield little under grass. This is owing to the long and descending roots of the Sainfoin, which will thrive in the fissures of rocky and chalky under-strata."

Arthur Young says: "That upon soils suited to its culture no farmer can sow too much of it." In the code of Agriculture it is said to be "one of the most valuable herbage plants, which we owe to the bounty of Providence."

The *British Farmer's Cyclopedia* says: "The great advantage to the public from the cultivation of this plant, arises from these circumstances: first, that it will flourish upon soils where most other plants would starve, producing according to the remark above, forty times more herbage on the poorer soils than common turf. Secondly, it is a perenial plant, abiding for many years in the ground without renovation, and requiring no other assistance than what is usually given to pastures that are regularly mown; and by being more productive, is, of course, more valuable. Thirdly, by being furnished with tap roots whose nature is to go downward, they seem to draw less of their nourishment from the atmosphere than most other plants. By supplying themselves in this manner with their proper aliments, they are enabled not only to resist a great degree of drouth, but are capable of producing very exuberant crops, when others are parched and burnt up." The weight of these authorities is very great. The qualities of this plant as described by them are precisely those which promise success with us, and render it worthy of the notice of the Committee. Persons disposed to experiment with Sainfoin can produce the seeds from the seedsmen at the North. But these seeds should be warranted. If the seed be more than a year old, it vegetates with great uncertainty. Not one in one hundred of the seeds sown by me came up. I have dwelt long upon this plant, from its great value elsewhere, from its being comparatively unknown among us, and in the hope that the attention of others may be turned to it, who may be more successful than myself in its culture.

No. 5. *Lucerne.*—This plant is in successful

cultivation in all parts of the State, from the mountains to the seaboard. It grows with luxuriance wherever the land is made sufficiently rich. But it is generally cultivated on a small scale, as in gardens—chiefly as a border to beds. It is a matter of surprise that persons, observing its success on a small, have not attempted it on a large scale. For certain purposes it is extremely useful. It is ready for the scythe sooner than any other grass with us. It can be cut and fed green, early in the spring; in the summer it may be made into hay, and in the autumn again cut and fed green. It is highly prized in England, but can only be cultivated in the Southern countries. In France, Spain, Switzerland, Italy, and, in fact, in all the warm and dry countries of Europe, it is the chief reliance for stock feeding. No country in which Lucerne will thrive need be deficient in good stock, for all kinds of stock are exceedingly fond of it. If any intelligent farmer will plant one acre of Lucerne, it will be but a short time before he will appropriate many more acres to it. A host of agricultural authorities might be adduced to show the great value of this plant. Any perfectly cleansing crop is a good preparation for it. A crop of turnips is the best, as no crab grass goes to seed where turnips are cultivated. The best time for sowing is, perhaps, in September. But the period for sowing oats will answer very well if the ground is sufficiently clean. If it has not some size before the crab grass springs, this grass will injure the young Lucerne.—After being sown it will last perhaps for 20 years, requiring a top-dressing every third year. It can be cut every 8 weeks from early spring until severe weather in winter. Lucerne cannot be cultivated at the North, where they have no grass which can compare with it in value to the farmer, for hay or soiling. It will not bear pasturing.

No. 6. *Vetch.*—There are several varieties of this family which are native; which is an indication that the cultivated varieties will be successfully grown in this State. Among the seeds of the Sainfoin, sown by me this year, there were some Vetch seeds, which came up and grew with great luxuriance.—The winter variety might be of much service to us. I was so much struck with the luxuriance of the occasional plants referred to, that I have sent to England for a supply of seed, that the utility of the plant may be fairly tested in this climate.

No. 7. *Blue Grass.*—The value of this grass is well known. I have succeeded with it perfectly in Middle Georgia on mulatto land and under shade. In the primitive formation, it requires either putrescent or calcareous manure, or ashes.

No. 8. *Orchard Grass.*—This is an excellent grass for winter pasturage, and thrives best in an orchard or in woods pasture. If left ungrazed during the summer, it will afford a deep cover of green food in January.

No. 9. *Tall Oat Grass.*—In Cherokee, Georgia, this grass grows with luxuriance, and during the whole winter. As it is not well known in this State, it may not be amiss to quote some authorities in reference to it:

"Dr. Muldenberg and Mr. Taylor, of Virginia 'Arator' place this at the head of good grasses."

"It possesses the advantage," says Judge Buel, in the Farmer's Companion, "of early, late and quick growth, for which the orchard grass is esteemed, and is well calculated for a pasture grass. We have measured it in June and when in blossom; (at the time it should be cut for hay) and found the seed stems 4½ feet long. The lattermath is nearly equal in weight and superior to the seed crop."

Sinclair says: "It thrives best on a strong tenacious clay, and Muhlenberg prefers for it a clover soil."

Dickson says, "it makes a good hay, but is most beneficial when retained in a close state of feeding." The British Cyclopedia says: "It affords a greater weight of hay than most other grasses. On the continent in comparison with common grass, it is found to yield in the proportion of 20 to 2."

Loudon says: "Every animal that eats grass is fond of it, while it makes the best hay and affords the richest pasture. It abounds in the best meadows about Lacock and Chippenham, and has the valuable property of abiding in the same land while most other grasses are constantly changing."

Mr. Lewis Sanders, of Kentucky, says: "I have been informed by an experienced trainer that the use of hay made of the tall meadow oat grass, as the fodder fed in training, keeps the bowels in a natural condition, dispensing with any use of balls, physic, &c., thereby giving the horse several lengths the advantage of the one weakened by physicking. My own observations and experience in feeding cattle sustain the remark of an 'experienced

trainer,' as to feeding this species of stock with hay made of the tall meadow oat grass, or orchard grass. Sow the seed on ground well prepared, as it usually is for the reception of timothy or other small seed, fall or spring. As early in the spring as the ground can be prepared is the surest and best time to sow meadow oat grass or orchard grass seed. In June of the first year weeds will make their appearance; then, with a keen scythe, mow weeds, grass and all, close to the ground.—The next year comes a good crop of seed. As soon as the top seeds are ripe, secure it with a cradle or scythe. Immediately after the seed is cut, mow closely for hay; then, about the last of August you have a second crop of hay, yielding more than the first; having the best of all pasturage for colts and calves."

These directions are for the latitude of Kentucky. Early fall sowing would be best here.

It will be seen that the testimony in favor of this grass is very strong. One of the authorities, Col. Taylor, is from Virginia, and another, Mr. Sanders, from Kentucky; both climates approaching our own. The small experiments made in Georgia with this grass indicate that it will succeed as well in this State as elsewhere. I have now two acres sown in it, which promise well. That which had been previously planted grew to five feet in height and afforded two cuttings. It is well worth the attention of farmers in Georgia.

No. 10. *Timothy.*—In low, damp situation this grass has succeeded well with me. It is so well known as to need no comment.

No. 11. *Herds Grass.*—This grass thrives well in positions suited to it, which can hardly be too wet. It succeeds on white pipe clay land, if the soil has not previously been denuded by long cultivation. It does not compare with some other grasses for pasture. It is not in this section (Cass county) green during the winter. But where hay is an object and where wet, tenacious clay land can be obtained a mixture of herds grass, timothy and white clover, will be found very valuable. It is this mixture which composes the celebrated meadows of the Hon. Mr. Dickinson, of New York. Both herds grass and timothy seed at the same time and both have a peculiarity which distinguishes them from other grasses, viz: that they are most valuable for hay just when the seed is ripe, so that seed and hay can be obtained at the same time. They do not answer to sow with red clover, as the clover is ready for cutting before the other two. As timothy grows much higher than herds grass, and white clover is shorter than either, the union of the three gives a heavy burden of hay down to the ground.

No. 13. *Feather Grass.*—This grass is nearly, if not the same, with one of the varieties of the muskeet grass, and both are comparatively worthless in this climate.

No. 13. *Muskeet Grass.*—One of the kinds of this grass sent me is the same with wild rye of this State.

No. 14. *Wild Rye Grass.*—This is a native plant, and I think, a very valuable one. My attention was turned to it 20 years ago by the late Dr. Terrel, of Sparta. At that time the slope of his terraces was sodded with it—a very trying place to induce grass to thrive. Yet this grass was very luxuriant and at midwinter. The soil was the gray soil general in that section of Georgia. Because this plant is native and "to the manor born" it has been undervalued. The best proof of its excellence is found in the fact, that though in a pasture, grasses may have gone to seed, the wild rye is never suffered to do this where cattle can reach it. We find it seeding in corners or among bush heaps, where stock cannot reach it. It is a good hay grass, if cut when in flower, not harsher than timothy or orchard grass. It is a permanent plant. It is green all the winter and spring very early. It is well worthy of careful trial. As with all other grasses, the richer the land the better the product. It grows well on upland or low land of equal fertility. I have found it a native in all parts of the State, from the mountains to the seaboard.

No. 15. *Meadow Vernal Grass.*—This fragrant grass is highly spoken of by Northern and European farmers. It has seemed to thrive with me in the small experiment made with it, but my experience is not yet sufficient to enable me to speak decidedly of its adaption to our climate.

No. 16. *Meadow Soft Grass.*—This grass has been tried by me for the first time this year. Remarks the same as upon the preceding.

No. 17. *English Ray Grass.*—Same as above.

No. 18. *Italian Rye Grass.*—There is a perennial Italian rye grass, which Colman speaks of as yielding almost fabulous amounts

of hay in England. There can be no doubt of its extraordinary value. The seeds which I have obtained are of an annual variety.—This grows extremely well; but after seeding dies, and in the autumn the seeds spring up and the plant grows during the warm seasons of the winter. This annual variety would be of use in stocking a winter pasture, but is not worthy of notice as a hay grass.

I have again sent to England for the seeds of the perennial Italian rye grass, from which I hope important results. It may not be improper to say that I am now endeavoring to procure from the North of Italy, Switzerland and Spain, all the varieties of perennial grasses in use in those countries, which are green during the winter. When obtained, the results of my experiments shall be communicated to the Society.

From the 18 varieties of grass noticed in these remarks, there are certainly some which will suit each portion of the State. There are vast tracts of land, now comparatively valueless, which are designed to be our most valuable lands, when grass culture is better understood. I refer to the swamp lands of our rivers. Such lands would be worth $200 per acre at the North to be put in meadow, and yet at the South they will produce quite as much hay as at the North and the hay sells for nearly double the money.

These remarks apply not only to the swamps of the Savannah, Oconee, Altamaha and Ogeechee, and our other creeks and rivers, but also to the large bodies of what are called "bay lands," and which occur in the midst of the pine forest. If these bay lands are thoroughly cut down and burned over in the summer, the ashes scattered and herds grass and white clover seed sown upon them, they would become good meadow land. It is a fact not generally known, that herds grass will convert a quagmire into a pasture sufficiently firm for cattle or even lightly loaded wagons to pass over. In the lower part of the State, herds grass would undoubtedly grow all winter. The river and creek swamps need not be cut down but merely thinned out and well grubbed, as the shade of our forest trees (except the pine) is not hurtful to the cultivated grasses. The saleable value of the product of an acre of good hay is greater than that of an acre even of rice, if we estimate the difference in labor. Two and a half tons of hay from an acre of good meadow land is not an unusual yield. In the Savannah market this would be worth not less than $50. This suggestion is offered, not as proposing the hay crop as a substitute for rice in the low country, but as calling the attention of low country planters to a valuable auxiliary in that mixed husbandry which is found everywhere to be the most profitable.

There will be a change in our culture. It is now changing for the better. Our industry is becoming more varied in its application to agriculture. Our State Fair is a proof of this. Finer horses, cattle, sheep and hogs cannot be found than have been exhibited there. But the change has commenced not exactly at the right point. The rearing of stock extensively from grain is too expensive to be remunerative. We must prepare for it by laying down land to grass. Besides the artificial grasses, as we have found native vines and fruit trees, so we shall find native grasses, which, perhaps, will be more valuable even than any of the artificial grasses.—Let the attention of agriculturists be turned to this point. The burden of this examination will rest mainly on the gentlemen of Middle and Lower Georgia. The native grasses have not been exterminated in their river and creek swamps which have been inaccessible to cattle. Whenever a tuft of unknown grass, green in winter, is found, let it be protected or removed and its habits noticed. No one can foresee what results may follow an intelligent examination into the native winter grasses in Georgia.

This Essay may be concluded with short advice to persons inclined to enter, for the first time, upon grass culture. If moist or wet land is to be converted into meadow, sow timothy, herds grass and white clover. Herds grass will grow almost in running water.

If upland meadow or pasture is desired, to be alternated with cotton or grain crops, remaining in grass two or three years, sow red clover. If the ground be once well filled with red clover seeds, two or three years cultivation in grain will not destroy them all. If the grain field be shut up, the clover will again appear, without the cost and trouble of re-sowing. This is another advantage from some peculiarity in our soil and climate which we have over the North. If clover be not used as a pasture it is best to cut it only once and afterwards to let nothing graze it

until the fields are exhausted in winter. This use of meadows is not practicable at the North from the severity of the winters, but it is very common in England and is quite practicable in Georgia. Among the English, this lattermath or 'rowan,' as it is called, is considered of great value, and is their chief reliance for the support of certain species of stock from January until the grass springs up again.

If it is designed to lay down permanent pasture in cleared land, sow red and white clover, and a mixture of orchard, meadow, oat, wild rye and blue grass seeds. A mixture of grasses is always best. As the spear grasses take possession of the ground slowly, they will be in vigor when the clover has disappeared.

If the design be woodland pasture, sow orchard, meadow oat, blue grass and wild grass seeds, scattering, also, white clover where the brush or log heaps have been burned—the ashes will cause the seed to vegetate and it will afterwards spread rapidly.

In order to save the trouble and expense of manuring and sowing rye and barley lots to cut green for horses, colts and milch cows, sow as many acres of lucerne as may be necessary for that purpose. This will give not only the most economical cut food in the spring, but during the summer, will save the trouble of turning plough or pleasure horses into a pasture or the expense of feeding that costly food, corn fodder. Farm horses will work well with one feed of grain a day, if plentifully supplied with lucerne in their stalls.

Let it be remembered that the artificial grasses should never be sown on poor land, unless it be for woo's pasture, prepared as directed—that, as they are not annual but perennial, they mature slowly and should not be used until matured—that they should be grazed lightly or not at all during the heat of summer, the dependence then being crab grass or other summer pastures.

With this treatment, the artificial grasses will be found to be of much service to the farmer. The manure of his increased stock will increase the value of his cultivated crops, and this increased value will replenish his purse, which is the end of farming.

Spring Bank, Cass Co., Ga., Oct. 20, 1857.

Hints on Draught. No Check Rein on a Draught Horse.

If a horse cannot lay to his work, and bend his head down when he desires to do so, be sure that he is not properly harnessed.

Whenever a horse is employed for the purpose of drawing any vehicle, it is of the utmost importance that he should be able to employ all his strength to advantage. Every one who considers at all, must acknowledge that if a horse has to do his work in a cramped and confined condition, or when he is inconveniently placed as regards the load, he cannot exert his full power, which is so much loss to his master; or, if forced to perform a certain amount, then he is obliged to waste a great deal more of his strength (or muscular power) than is required, to his own great pain and injury.

The question how to properly attach the horse to the vehicle is, therefore, one of the greatest importance to every master who wishes to get a proper degree of work in a fair and rational manner. Yet, from being unacquainted with the *principles*, few examine closely into the *practice;* an immense deal of horse strength is wasted every day on loads which, if properly attached, might have been comfortably moved with far less trouble, exertion and pain.

The act of pulling is performed by leaning forward, with the weight of the body against the resistance of the opposing force, and then, by strong movements of the limbs, keeping up and increasing the pressure; the weight of the body being of the utmost importance, as any one may try by pulling at a rope passing over one shoulder, and *standing upright all the time.* It will be found that what was before pulled with ease cannot now be moved at all, or, at any rate, only by the most severe and continued efforts of the limbs. These muscular movements, exhausting the strength, try the system violently, whereas the body-weight is easily employed without consuming the vital energies.

From the upright position of a man's body, he is not fitted to draw loads. If, therefore, this great difference is perceivable with his light frame, how great must be the waste of strength when the horse is prevented from throwing his whole weight fairly into the collar! Yet this is constantly the case through various causes.

First, and, unfortunately, in too many cases,

the collar is quite unfit for the animal. A horse-collar is, we are sorry to say, frequently looked upon as merely a ring for the neck, to which the traces are to be affixed; whereas there is no part of the harness which is so important and which ought to fit so accurately. How often is a little collar, only fit for a pony, jammed on the neck of a much larger animal, so that every pull he makes must give the feeling of strangulation, and that will, in all probability, cause some kind of fit if long continued, besides its liability to gall and wring the poor animal's shoulders. When this has taken place, the work *cannot* be fairly performed; and, to do it at all, the anguish of the poor horse must be indescribable.

Secondly, the horse is often prevented from throwing his weight into the collar, by a *tight check-rein*—a useless and painful incumbrance introduced by vanity, and retained by thoughtlessness amounting to cruelty. Ask horse-keepers why they use it, and hardly any two will give the same answer, though it is generally supposed by them to be a great safeguard in case of stumbling. The real object with which it was introduced was, to make every horse to which it was applied, however weak, or old, or poor, assume the lofty carriage of the thorough-bred horse; and the tossing of the head, the foam at the mouth, and the restless agitation of the body (mute, but expressive signs of pain and suffering) came, in a little while, not only to be disregarded, but even looked at with approbation. Fortunately, this vitiated taste is rapidly going out of fashion as better information is diffused. *Few of the London cab-drivers use check-reins*, knowing them to be inconsistent with proper work; and when one is observed, it will invariably be found to be on some poor animal whose wearied and haggard appearance is attempted to be disguised by this implement of torture.

Thirdly, a great cause of unnecessary pain and labor to many horses is a *neglect in keeping the wheels greased* in a proper manner. "Some persons may not be aware," says Hieever in his work, *Bipeds and Quadrupeds*, "that the trifling neglect of a pair of wheels being comparatively dry or well greased, will cause twenty miles to take far more work out of a horse than forty would in the latter case; yet wheels absolutely screaming from dryness are often seen and heard attached to carts and wagons; and thus would the brute in human form let them scream till he had finished his journey's end or his day's work, though his horses were drawing from such a cause, *at least one ton in four of resistance more than they would if the defect were attended to.*"

Men who have loaded carts and driven horses all their life, ought to know how a horse should be worked to his master's advantage and his own comfort; but the fact is, that the generality of working-men know little, and care less, on the subject. If this were not so, how is it that we frequently see the follow-error?—*A disproportion between the vehicle and the animal.* May not a person everywhere observe a fault of this kind?—a little horse staggering under the weight of a high and heavy cart, which, if the load be in front of the axle, shows the shafts running absolutely downwards; or if behind the axle, nearly lifts the unfortunate creature off his legs, placing him in a position in which it is impossible he can exert his power at all favorably; and, on the other hand, how often is a tall horse seen between the shafts of a low gig or cart, pulling the shafts upwards at a sharp angle?—a position just as awkward and disadvantageous and as wasteful of animal power as that mentioned before.

Another instance of mismanagement may often be seen in which it is hard to say whether we ought first to pity the horse, or smile at the folly of the master. It is where two or more are hitched on to a cart or wagon, a tall horse in the shafts and a little one in front.

Any one who considers for a moment must see that whenever the front horse pulls he must drag the shafts *down* on the shaft's horses back. The harder the pull the greater the weight the other poor animal has to bear; while if the front one is not kept pulling, all advantage is lost from his employment.

The proper way in such cases is to employ two horses of the same size; but, as it may sometimes be necessary to employ two of different height, we will here point out an objectionable method of harnessing them.

The horse draws in a straight and level line; therefore, whenever the shafts and traces are level, or nearly so—sloping a little upwards—we may be sure the draught is properly applied. All that we have to do then, is to remove the traces of the fore horse from the front of the shafts and attach them to the hind part, supporting the increased length by a small strap or chain.

This is simple enough when once understood; yet people go on for years without ever considering or attempting to remedy this often-recurring fault, which, in the course of time, tells most severely.

If the lowest horse is fit to be put in the shafts, then the tallest one in front will ease the load off the other's back the more he pulls, an arrangement every way desirable.

The *best* manner of using a draught-horse is when *one* of a *suitable size* is employed to *draw a car or gig*; more work being then got of him, without useless labor, than in any other way. The market gardeners' carts which come into London are good examples of this. The vehicles run light and easily; the weight is distributed judiciously; properly balanced on the axles; and the shafts press only slightly upon the horses back. Immense loads may thus be drawn with greater facility than by many a half-empty country cart, with ungreased wheels, unsuitable horse, and load thrown in at random.

The *next best way* is to harness *two horses abreast*, both of them being then able to employ their strength directly on the weight to be moved.

The worst way is to use *a team*. The draught on the front horses is variable and unequal at the best of times, while the power, being exerted at a distance from the weight, becomes, in a great measure, neutralized and lost.

Many more hints on these subjects could be given, but we are writing for unprofessional readers, and space prevents our enlarging on these matters. Let one rule suffice for all.—The bodily feelings which a human being experiences under any circumstances, are pretty similar to those felt by a horse; so that a clear and simple rule for guidance is afforded by the consideration that *what would be painful and disagreeable to us would be just the same to them.*

It is the master who should look to these points; for the mere day-laborer, in most cases, cannot comprehend the propriety of a change, nor would willingly make one, having no interest in it. But it is on the owner the loss of labor every day falls, and the extra expense at the end of the year is out of *his* pocket. To him, therefore, we must look for a change in the right direction. On him, too, falls the *moral responsibility* which attaches to any neglect of the dictates of humanity, or the rules of justice, in his treatment of the dumb creatures dependent on him.—*Horse Book, London.*

The Check-Rein.

There is one infallible proof, constantly to be obtained, of the cruelty of the use of the check-rein and of its injurious effects, though we believe very few persons are aware of it. Whenever a horse has been worked with a tight check-rein, the corners of his mouth become *raw*, *inflame*, *fester*, and *eventually* the *mouth* becomes *enlarged on each side*, in some cases to the extent of *two* inches. Even before the bit has produced these visible effects, if the corner of the mouth under the bit be touched the animal will flinch as if from hot iron. Let this be the sign with every master and servant. To what are these enlargements attributable? What causes them? Nothing but the friction of the bit in the efforts of the horse to get up to his work. How dreadful to see a horse heavy laden—his neck bent into a perfect curve—his mouth open—his eyes ready to start out of their sockets. The ignorant, though, *perhaps*, not cruelly-disposed driver, looks on with admiration to see how "handsome" his horse appears, and imagines that the tossing head, open mouth, and gnashing teeth, are signs of game and strength; whilst, on the contrary, they are the most unequivocal evidences of distress and agony. Let any one test the truth of this by loosing the check-rein, and he will immediately find the horse go *faster*, keep his mouth shut, and his head in one steady horizontal position. Draught-horses frequently exhibit the most painful examples of the cruelty of using a tight check-rein. Whether at work or standing they will often be found in continual torment—tossing their heads, or resting the weight of them on the bit, and so drawing back the corners of their mouths as nearly to split the ligatures. At work, instead of going on steadily they "bob" their heads, feeling the check at every step they take. A short time since, the writer stopped a wagon to look at the mouth of the shaft horse—he found the mouth actually cut open by the bit at lest two inches on each side; the wagoner said "he know'd it sure; *'twas the fair wear of the i'rn!*" The man was open to conviction, and upon the cause of this dreadful punishment being shown, he altered the rein.

The propensity to back, if not actually caused, is much increased by the check-rein. In ascending a hill the freest horse may be compelled to stop and refuse to exert himself, knowing that he can put forth no more strength until the head is loose. A short time since the writer saw a crowd collected looking at a coal-cart, fully loaded, drawn by an immense horse. The street is of a moderate ascent, and the horse had stopped just below the top of the hill; the driver turned the horse round down the hill, then up, and with his helpmate very humanely assisted by pushing. The horse, without being flogged or spoken to, went on steadily with his heavy load, to about the place he before stopped at, and again gave up; he was sweating much, and appeared to be a good *game* horse. The writer went up to the driver and advised him to unhook the check-rein. The man said "It's no use, I have turned him round *three* times." The writer said "He must be a good horse to take the load three times"—and pressed him to unhook the rein. The man replied "He will fall down." The writer coaxed him to try. The rein was unhooked, and immediately the horse took the load from the spot where he stood. The man said, "Well, I would not have believed that." It is not uncommon for considerate drivers to unhook their horses at the foot of a hill, which is a very strong proof of the folly of using the rein at all. It has been, and may be again, advanced as a plea for its retention, that a horse, after having been used to the rein, will miss it, and so be liable to fall if he trips after it is taken off. A trial will prove that this is not the result. A check-rein is fixed to the falling horse and *falls with him*—it cannot save him; it keeps a horse from seeing and avoiding stones and other impediments; it is a hindrance, not a help; an injury, not a benefit. It cannot be supposed that a horse stumbles willingly; therefore, to punish him for it, as is too often done, is wrong, and only adds to his fears.

To the ladies, the Society appeals with earnestness, knowing full well how pained they would be were they conscious of the horse's agony which causes that unceasing motion of the head which they have, doubtless, at times observed. Could these speechless sufferers answer the inquiries Why do you continually toss your heads while standing in harness? Why do you stretch open your mouths, shake your heads, and gnash your teeth? Why do you turn your heads back towards your sides, as if you were looking at the carriage?—they would answer: All, all this is done to get relief from the agony we are enduring by having our heads kept erect and our necks bent by tight check-reins.—*From Pub. of Royal Society of London.*

Plants as Chemists.

From one of our cotemporaries we clip the following sentence, which is worthy the attention of farmers:

"Plants which live in the ground and seem to know the proper constitutents for their well being, are the best chemists, as far as regards the choice of their elements."

Not always—a stock raiser that held the above as part of his creed, might be led into very serious mistakes. A pound of grass, and even mangold wurzel does not always contain the amount of salt which the analysis of Voelcker would lead us to expect.

It was at one time believed that when chemical analysis became a little more perfect, each species of plants and animals would have its own formula, which would characterize it as certainly as the formulæ of the mineralogist enable him to distinguish inorganic species. This hope has not proved well founded, if we may judge by artificial products of the farm, and as plants in a natural condition differ as widely in their conditions of growth as do those of the agriculturist, we have no hope that even an approximation can ever be made to such formulæ.

Our dairymen have found to their cost, that even though an animal gets a certain amount of grass, it does not follow that it gets a certain amount of phosphate of lime; that even if their bullocks get the proper allowance of mangold wurzel, they must not infer that they get the proper amount of salt, and that their sheep may have a fair proportion of clover, and yet not get a sufficient supply of potash.

Plants have a wonderful power of growing, even in spite of the deficiency of certain elements, and unless plants are produced in circumstances in which they have a full supply of all the inorganic elements required, it is not safe to conclude too hastily, from the mere fact of their growth, that they contain the usual proportion of inorganic food for animals.—*Co. Gent.*

How to Produce Good Butter.

Although scrupulous cleanliness is absolutely essential in everything that pertains to the dairy, as well as a perfectly pure atmosphere in and around its precincts, for the production of good butter, there are other matters connected with successful dairy farming that are equally essential, and where not attended to, serve to cast blame on those in actual contact with the dairy, while the real culprit is never thought of.

Let matters in and about the dairy be ever so well ordered and conducted, if the cows have not good, sound, sweet feedings, it is perfectly impossible to produce good butter. Milk is one of the most delicate productions the farmer has to deal with. Herbage or food of any sort that contracts the slighest flavor or impurity, communicates it instantly to the milk, as it is secreted. In the summer and autumn months the pasture should be as carefully weeded of noxious, bitter, or ill-tasted plants and weeds as is the neatest kept flower garden.

It is a well known fact that turnips of any sort communicate an unpalatable flavor to milk and butter; and although many nostrums have been suggested to rectify or remove that taint after the milk comes to the dairy, perfect success to that end has never been attained, though in some degree mitigated. "Prevention is better than cure," is an old adage, and as applicable in this case as in any other.—The taint has been communicated in the first instance, and then we seek for some nostrum or remedy to neutralize it, while we forget that the true way would be not to permit the communication of the taint.

As it is in the winter and spring feeding of milch cows with turnips, so it is in the summer feeding of dairy stock in the pastures, where are many herbs to be found that though not deleterious, but, on the contrary, their natural instinct leads them to browse upon as conducive to health, at the same time doing so injures the flavor of the milk and butter. Though there are many plants that the natural instinct of cows will teach them to avoid, there are others found more or less abundantly in pastures that it leads them to eat, which, though conducive to their health, taints the milk most abominably. Poor, innutritive pastures, covered with deleterious weeds, cannot produce good, sound milk and butter, so it is also in the winter the cows should have good, sweet food given them at regular intervals, so as not to allow them to get uneasy and fidgetty; the hay should be made of grass that has not gone out of flower before it is cut.

Dusty, musty, coarse food cooked up so as to make it palatable, should be avoided. The yield or quality of butter cannot be good on such food, though the dairy itself be conducted in the very best manner; and, besides all this, unsound, unwholesome food, has a deleterious effect on the health of the cows, which town dairymen feel to their cost.

Impurity in feeding either in summer or winter is unquestionably the cause of the great complaints we receive from time to time of the length of time it takes to churn, and the difficulty experienced in gathering the butter; in some cases of its not coming at all, and the paleness of its color. If attention is paid to their feeding; that they get nothing but what is sound and good; that they get pure water; that the dairy is kept thoroughly sweet and clean; that the air is pure, with no foul sewers or dung heaps near it; and that strong men are put to churn instead of weak women or girls, and that no stoppage is allowed in the operation, even for a minute, till the butter is come, there will be almost a certainty that the churning will not exceed half an hour, and that its quality will be everything that is desired; but if bad grass, mixed with deleterious weeds, musty or half rotten meal or hay, be given, "no dairymaid, however clever she may be, can make good butter; but if nice, green, sweet hay, those kinds of roots that impart no unpleasant taste, and fresh, luscious meal be given, it must be a dirty, lazy, or foolish woman, that can make inferior butter."

Other points to be attended to are, regularity as to the time of milking; if the proper time be passed, the cow gets uneasy and feverish, to the injury of the quality of the milk. The same person should milk the same cow; changing the milker frets the animal, and she gives her milk reluctantly. If the pasture is near the cowhouse, the cows should be quietly and gently driven to it; but no overdriving, striking with sticks, or worrying with dogs allowed; and if the house is too far away, the cows should be milked in the field, and the milk carried home.—*Irish Farmers' Gazette.*

The devil knows how to tempt some persons with continence and others with lust.

Insects.

It is clear we have to proclaim a general war against insects. Little by little they have encroached on us, until it has become a serious matter how we are to protect ourselves against their ravages. Wherever we go, the great complaint is the insects. Fruits, grains or vegetables—"we could do first rate only for them."

The study of insect life or entomology will do much towards the insect war. It will show us their strong points, and let us know about their weak ones. Acquainted with their habits, we shall know better when and where to attack.

We see in the West that attention is being turned to the forthcoming struggle. The farmers there are employing labor expressly to keep down insects—just as they engage men expressly to look after stock. One writing to a contemporary of the Colorado potato bug, describes the battle in his potato field, and triumphantly records his success. Twice a week the insects were hand-picked and destroyed. For a while it was a neck and neck race, but human energy prevailed in the end. The crop was saved.

Hand labor must be one great implement in this warfare. A correspondent of a Western paper believes insects were created to make us work. The tendency of machinery is to draw men from the farm to the workshop.—Insects then increase, he says, providentially to bring them back again. "Providence," he adds, "seems pointing directly to small farms, where men and women can raise their food by constant vigilance and industry. An increase of the insect world to a much greater extent, will bring the many from other industries to the farm or starvation. Could some revolution change the idle to become producers, we might rejoice in that change, though grievous for a season."

There is one "potato bug" very destructive, which might easily be kept down if the readers of the *Weekly Press*, who know, would tell them about it who do not. We mean the stem-borer. The injury it does is immense—yet but few growers are conscious of it. We bought a piece of land adjoining our farm, very favorable to the potato, last spring, on which we proposed to ourselves to raise a model crop. The first week in August the stems were green and growing—at the end of the second week they were dried up. Slitting the stems near the ground, we found them hollow—bored by the *baridius*—which explained their sudden death. An acre measured, on digging, one hundred and seventy-five bushels of saleable, twenty-five of what are commonly termed "seed," and eleven of small sizes. But for the borer there would have been certainly one-third more. The larvæ being in the stems, these were collected and burned. Hundreds of thousands are thus destroyed, saving by so much our future crops.

But there are some neighbors we cannot reach. Their potato haulm will lie in the sun till the insects get out into the ground. We shall have our share of them next year we suppose. There should be a law to compel insect destruction in such cases.—*Weekly Press.*

Our Wheat Crops of 1867 and 1868.—A recent note from Mr. J. R. Dodge of the Department of Agriculture, Washington, to the *Country Gentleman*, contains the following interesting statements: "The October monthly report *will not show more than three per cent. increase over* 1867, *in the Wheat Crop of this year.* With our present population and the marvellous increase of wheat production on the Pacific coast, we should make two hundred and sixty millions of bushels, but we shall fall at least forty millions short of it, after counting from twenty-five to thirty millions for the Pacific States and the Territories. To have full supplies, we should have at least five bushels per capita for consumption, &c., as follows:

For 38,000,000 people, 5 bushels each,	190,000,000
For seeding 20,000,000 acres,	30,000,000
Surplus for exportation, waste, loss by fire, &c.,	40,000,000

The Currant Worm and Hellebore.—A. C. Caywood, of Poughkeepsie, gives in the *Horticulturist* a good method of applying the well proved remedy for the currant worm, the white hellebore. He uses De La Vergne's bellows, made for applying sulphur to grapevines, &c., and says a slight puff will kill the worms in twenty minutes. In relation to the hellebore being poisonous, he says he has inhaled it for two hours at a time—that it is unpleasant and causes sneezing, which may be avoided by keeping on the windward side—which we advise every one to do. The bellows should not be used when the bushes are wet, as the wires choke with dampened powder.—*Country Gent.*

Agricultural Benefactors of Virginia.

We find in the *Weekly Richmond Whig* a communication embodying a report made to the Virginia State Agricultural Society by a Committee appointed at its first meeting in 1853.

This Committee was composed of N. F. Cabell, of Nelson Co.; Commodore Thomas Ap. C. Jones, of Fairfax; Gen. Peter H. Steenbergen, of Mason; Wm. B. Harrison, of Prince George; B. Johnson Barbour, of Orange, and Hugh M. Nelson, of Clarke. They were instructed to offer in behalf of the Society honorary testimonials to each individual of Virginia who, previous to 1853, had discovered, or introduced, or brought into use, any principle, process or facility, or generally any improvement by which important value had been gained for the agricultural interests of Virginia.

Recognizing that their report did not admit of hasty or incomplete preparation, they proposed that if the Society should think proper to continue them as a committee, they would endeavor to accomplish the object at or before another meeting of the Society. In the meantime, however, as an evidence that they had not been wholly remiss in their duty, and as a sample of the facts which their inquiry had already elicited, they made a report (written by Mr. Cabell), which was received with the thanks of the Society. Among those of whom honorary mention is therein made, I remember that the credit of the introduction of horizontal ploughing, or ploughing across hills and nearly on a level, as distinguished from the old and barbarous method of tracing the furrows directly up and down the ascent, is given

To Governor Thomas Mann Randolph, of Albemarle, father of the late General George W. Randolph, from whose example it spread throughout the State.

To Mr. Ryland Rhodes, of Albemarle, is given the credit of the first hill-side plough.

To Mr. Humberstone Skipwith, of Mecklenburg, (father-in-law of Bishop Joseph Wilmer, who, according to the recent testimony of your correspondent, Dr. Bagby, raised so abundant a crop of lettuce!) the credit of the open graduated furrow.

To Mr. Philip Tabb, of Gloucester, the mode of breaking up low grounds in beds of a limited and specified width.

To Commodore Thomas Ap. Catesby Jones, of Fairfax, the introduction, as early as 1822, of the substratum or subsoil plough.

To Mr. John Murphy, of Westmoreland, the introduction of a threshing machine.

To Mr. Cyrus H. McCormick, of Rockbridge, the invention of the reaper.

Mr. Fielding Lewis, of Charles City, was the pioneer in the use of lime on a large scale as an improver of the soil.

Mr. Edmund Ruffin, of Prince George, father of Edmund, junior, was the father also, as all Virginia knows, of the renovation of the eastern portion of our State, by teaching the use of marl and green sand.

Mr. Israel Janney, of Loudoun, father of the Hon. John Janney, was the first to introduce gypsum, or plaster of Paris.

The first ton of guano brought to Virginia was by Commodore Jones; though guano was introduced into the United States by Commodore Porter, Sr.

Mr. Israel Janney was the first to sow the seed of the red clover in Northern Virginia, and Mr. John G. Mosby, of Curles, in Henrico, (father-in-law of General P. T. Moore,) the first to make trial of it in our tide-water region.

President Madison, while a member of Congress, sent from Philadelphia to his farm, in Orange county, a small parcel of timothy seed.

Mr. Abraham B. Venable, while a Senator in Congress, likewise sent from Philadelphia to his farm, in Prince Edward, a small parcel of red top or herds grass.

In relation to the important subject of the rotation of crops, special mention is made of the services of John Taylor, of Caroline, Wilson Cary Nicholas, John Wickham, Thomas Marshall, John A. Selden, and others.

Mr. John Harness, of Hardy county, was the first to practice the cutting down of Indian corn with its stalk entire, to be shocked in the field, and thus used as the food of cattle.

Our great staple, tobacco, was formerly sold by the note of the inspectors, which simply indicated the weight, and all that passed inspection was presumed to be nearly of the same value. The uniform price was twenty shillings Virginia currency, equal to $3.33\frac{1}{3}$ Federal money, per hundred pounds. Mr. Benjamin Hatcher, of Manchester, (father of Mr. John H. Hatcher, in the Exchange Bank,) was the first to break through this rule, buying it at liberal prices, according to the quality

and condition of the article, as well as the general state of the market.

An honorable place is, of course, given to General Washington as a cultivator of the soil, for this was his chosen occupation, his first love, to which he ever returned when he could divest himself of the cares of State. All the maxims of good husbandry were exemplified on his farms; and by his published correspondence with Mr. Arthur Young and Sir John Sinclair he approved himself a distinguished promoter of this cause. Nor was it forgotten that as the father of the sy tem of internal improvement in Virginia, he most materially contributed to the advancement of her agricultural interest.

The services of Chief Justice Marshall as the first president of the first agricultural society of Virginia are properly recognized.

"Arator" and other writings of Col. John Taylor are brought handsomely in view. And the report closes with a splendid tribute to Mr. Ruffin, the president, who is hailed as the field marshal of the army of farmers and planters of the Old Dominion.

Mr. Cabell might have appropriately mentioned in this report that his uncle, Mr. Jos. C. Cabell, was the first person to introduce a circular saw in Virginia, (for which, however, I have heard he was rather sorry, since he became the instrument of so rapidly diminishing our forests,) and with equal propriety he might have stated that his brother-in-law, Mr. John H. Cocke, Jr., was the discoverer of hydraulic limestone in Virginia.

NEW VIRGINIA CREEPER—(*Ampelopsis Veitchii.*)—This is a miniature foliage variety of our Virginia creeper, which clings to any building with the tenacity of the strongest ivy, and producing in great profusion its dense foliage of a glossy green, shaded with purple, cannot fail to command great attention. It is of exceedingly rapid growth, requires no nailing, and from earliest spring it produces its beautiful purple tinted leaves so thickly as to form the most perfect coating wherever it is planted, the young shoots being quite purple. The leaves are sometimes divided into three parts, and are sometimes entire, turning red in autumn, similar to the old kind. It was introduced by Messrs. Veitch, and long received first class certificates and prizes at the great shows in London.—*Hovey's Ma azine.*

October Agricultural Report.

The Department of Agriculture has issued a report of the condition of the crops in October, which says the full promise of the early summer has not been realized in the wheat harvest. The increase is scarcely more than three per cent., and that is obtained mainly from the Pacific coast. The decrease in production is chiefly in Maine, New Hampshire, Massachusetts, Connecticut, New Jersey, N. Carolina, South Carolina, Georgia, Alabama and Texas.

The oats crop is somewhat larger than last year, but not up to the wants of the country, or the expectations of the early summer. Of cotton, the returns indicate a small crop, possibly fifteen or twenty per cent. less than last year, but a complete estimate cannot be made until the crop is gathered. Returns from Louisiana indicate an increase of twenty-two per cent. over last year in sugar cane.

The amount of old wheat on hand is somewhat less than usual throughout the country, with the exception of the cotton States, which have a higher average than last year. This remark will not apply to Texas, where the granaries are uniformly empty. The quantity left over in Wisconsin is relatively somewhat lower than in the neighboring States.

The stock of beeves in preparation for market is larger than last year west and south of New Jersey, except in Indiana and Illinois, which States constitute an important beef-producing section. The deficiency in Illinois is placed at two per cent., and in Indiana at five per cent. The condition of fattening cattle is almost universally superior, giving promise of better and larger meat supplied than usual.—*Exchange.*

VINEGAR FROM APPLES.—The superior excellence of vinegar made from apples is well known. Dr. Claggett of St. Louis, stated at the last meeting of the American Pomological Society, that he uses the imperfect fruit too defective for market, and that from his small orchard he thus makes two thousand gallons of vinegar. Mr. Nelson of Fort Wayne, said, at the same meeting, that, after, considerable experience, he finds that gathering the imperfect fruit as fast as it falls, for making vinegar, diminishes the ravages of the apple worm annually. He finds it profitable.

The Scriptures and Science.

Commodore Matthew F. Maury was installed as Professor of Physics in the Virginia Military Institute, on the 10th of September, with interesting ceremonies. We quote the following from his inaugural address to the students:

Strive in all things and at all times to be right-minded; and as you are conducted along those beautiful walks in the fields of physical research, which modern investigation has made so lovely and instructive, guard against the seductive arguments of those authors who delight to point out what they call contradictions to the Bible.

My dear young friends, always remember that the author of that Book is nature's God—that the revelations of science and the statements of the Bible are both true, and that truth cannot contradict itself.

Now, when you fancy you discover, as many say they do, discrepancies between science and the Bible, be not fast as Colenso and others have been, to pronounce the Bible wrong. Keep from presumptuous sins, and be firm in the belief that the Bible is true—that science is true, and that if there be apparent discrepancy between these two records, it is not the fault of either, but of yourself, their interpreter. The records are right, but their interpretation has, on many occasions, been wrong.

Science is progressive, and for its healthful advancement speculation is often necessary. The boldness of such speculation, uttered in the shape of hypotheses, has sometimes startled the world, and needlessly disturbed the minds of Christian people. Sometimes the reading of the Bible has been wrong, and sometimes of the volume of nature, but in the end the dark sayings of each have been found to throw light upon the other.

Scientific Rascality in Commerce.

The Cincinnati *Journal of Commerce* says: "It is no longer a secret of the chemist's laboratory that clear, golden sirups can be made from starch and sulphuric acid; that delicious wines and brandies can be made from beet-root; that a barrel of peanuts can be transformed into excellent coffee; that lard can absorb an enormous quantity of water in certain conditions; that in fact there seems no limit to the adulterations that an intelligent and dishonest chemist can practice upon his fellow-men. All these marvels of chemical science have in these latter days become degraded into mere tricks of trade, and their chief beauty is in their capacity to enable unscrupulous dealers to lighten the pocket and destroy the stomachs of the confiding and consuming public. Concerning the article of champagne, a writer in the Portland (Maine) *Star* tells us that it is made from a thousand different substances—even from refined petroleum. Yes, from the fiery benzoles a sparkling, bubbling, foaming champagne can be produced which will delight the eye, tickle the palate, gladden the heart momentarily—but quicken our paces towards the graveyard. This is a new use for petroleum, which those who have been experimenting with it as an agency for generating steam have little dreamed of. Who can say that the Pennsylvania oil territory, now considered most worthless, may not some day be regenerated into the great champagne producing country of the world?

AN AGRICULTURAL ERA.—No State of the Union is so favored for agricultural purposes as the Old Dominion. That her resources have not been developed, and made her the first State in the Union, both as regards wealth and population, is wholly due to the cursed slave system. That overthrown, there is no reason why Virginia should not rapidly advance to the position which nature designed she should occupy.

The tenor and temper of speeches at the Augusta County Fair, being held in Staunton this week, gives us assurance to hope that such may be the case.

It is certainly encouraging to find old politicians like Mr. Stuart and Colonel Baldwin advising the people to steer clear of politics hereafter, and devote themselves to the culture of their soil. It is, indeed, a happy augury of the future. With the cutting up into small farms of the vast landed estates, introduction of labor-saving machines, and the substitution of vigorous, energetic labor for the irresponsible unprofitable slave system, Virginia, the mother of States, will yet bloom and blossom as the rose. The same will be true to a greater or less extent of the remaining Southern States in the agricultural era which is dawning upon them.—*New York Commercial* (*Republican.*)

A Winter Dairy.

Cows have to be kept through the winter, or a ruinous loss sustained by selling off in autumn and buying again in spring, which cannot be made up by any amount of good management in the summer. For a dairy business to be thoroughly remunerative every way, all the heifer calves from the best cows should be raised; and if the greater number of them are born in October and November, they will, with proper management, go on much better than spring raised ones, coming into use sooner and taking less milk. Roots must be grown, and calves will commence to eat them at a month old; and by the time they are six weeks of age they consume enough to allow of a discontinuance of half the milk, and at eight weeks they may be entirely weaned from milk, as they will eat hay also. It is astonishing how fast they will grow on swedes and hay; they should have no water when plenty of swedes are given.

On the Cotswold Hills in England, the land is not suited for large dairies, but the rye-grass fields and the sanfoin lays are excellent pasture for young growing cattle, which are kept without any detriment to the sheep; and, as much grain is grown, cattle are required to pick over the straw and tread a great deal of it into manure. Consequently most of the farmers keep only half a dozen cows for milk, and through the autumn and winter buy young calves every eight or ten weeks, and raise quite a number on skim-milk till they take to eating roots well enough to thrive on them. In Wiltshire, (an adjoining county to Gloucestershire, and not fifty miles from the Hills,) thousands are raised on "hay-tea," and the Orange county and other milk-selling farmers might adopt this system, instead of "deaconing" or inundating the cities with bad veal; and by growing roots at an expense of not more than seven cents per bushel, they might force them to a very early maturity.

Grow mangolds and carrots for the cows, and swedes for the calves and yearlings, and winter dairying would pay enormously, as these roots will force milk to as great a flush as ever grass will. Swedes will produce as great a quantity of milk, but they impart an unpleasant flavor, while the other varieties of roots, with a little corn meal, will give to butter all the sweet, fresh taste of a June-made article.

Taking a number of years together, butter makes in England about ten pence in summer and thirteen pence in winter (fresh, not salted,) and prime qualities supplied to private families, may make two pence a pound extra. In this country it is making nearly double this average; therefore, if roots were grown at a cost of from four to seven cents a bushel, and I know they can be, with proper implements and the right management, what a profitable undertaking a good winter dairy would be! If the temperature of the dairy is kept right, much more cream will rise than in summer, because in hot weather the milk turns to curd so soon. Then, if the cows have been well cared for, when grass comes, they can be milked on through the greater part of the summer, for six or eight weeks is long enough to have a cow dry. Many a farmer, keeping but a small dairy of cows, might quadruple the number and raise all the heifer calves, by adopting a system of part soiling in summer, and having an abundance of roots for autumn, winter and spring; for he may have a constant coming in of ready cash and no outlay whatever, excepting for labor and the board for that he can chiefly produce on the farm. The sur. rising weight of roots to the acre will give quite as extraordinary results for the winter, as Quincy's soiling system does for the summer. In no other way can any man make quick returns, and every business man knows the great desirability of quick returns.

How interesting it would be, and how advantageous to the pupils of the agricultural schools, if experiments were tried with dairies attached to their institutions—testing young against old cows, one breed against another, one kind of feed against another, using lactometers to try the quality of each cow's milk at different stages of her milking season, &c.

A good system of root culture will cause the making of such vast quantities of manure, that no man acquainted with the system, can conceive the wonderful improvement to land, and the great quantity of stock that can be supported on it, by the amazing increase of every kind of produce.—*Co. Gent.*

Lyons, Michigan, has a hundred acres of peppermint under cultivation, and has made this year a thousand pounds of pure oil worth $8 a pound.

The American Farmer.

Baltimore, December 1, 1868.

TERMS OF THE AMERICAN FARMER

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New Office, 4 South Street,

Near Baltimore Street,

BALTIMORE.

An Exhibition of the State Agric'l Society.

It may be assumed that, as a matter of course, there will be held next fall an exhibition of the State Agricultural Society. By the liberality of the Legislature it has been put in permanent possession of excellent grounds, and through the City Councils of Baltimore and some of her public spirited citizens, is assured of ample means of fitting them up in the best manner, for the uses of such an occasion. The Pimlico Grounds will become the future seat of the Society's operations, and their opening in 1869, being the first great event of its career, will be celebrated with such an exposition of her agricultural and mechanical products, and such a gathering of her people, as the old State has never seen before.

We hope the Press of the State will call early attention to the matter, and that all will begin to prepare for it in time; that our breeders of horses and cattle of all kinds; our grain and tobacco and fruit growers and nurserymen; our enterprising and strong-handed mechanics—may all take time by the forelock, and be ready to join hands in putting in motion the machinery of this new organization, which is to be, let us trust, through many years to come, the Maryland State Agricultural and Mechanical Association.

"Let us have Peace," it is said. Fit words though few. May He who has put them into the mouth of the chosen ruler of the people, strengthen his hands to do the works of peace; that when our people shall come together from all the borders of the State, and their friends from without her borders, to keep with them the harvest-home of the year to come, it may be indeed a time of rejoicing, and an occasion when all hearts may join to celebrate a festival of peace.

Use of Guano in Maryland.

A correspondent of the *Southern Cultivator* in November number of that journal, page 323, says, "Mr. Bowie, of Maryland, one of the best planters in the State, gives it as his experience, that he has never found guano pay on grain crops. It is a little remarkable, that at the guano head-quarters, more importance is attached to green manures, salt, bones, ashes, rest and rotation," &c.

We do not know, certainly, to which of the many Mr. Bowies of Maryland this is to be attributed, but suppose it may be the Governor. If he has said so, it is no doubt true as regards *his own experience*, but when it is argued from it, as seems to be the design of the writer, that guano has not generally been found to pay on wheat in Maryland, we cannot think the Governor has authorised such an inference, and it is certainly a fallacious one.

Governor Bowie's property is in one of the most fertile districts of Maryland, where clover and plaster, and general good management, had done the work of improvement before guano was known. Such lands would produce all they were capable of, without the help of guano, and on such it was the general experience that it did not pay to use it.

But on impoverished lands, and on such especially as would be considered good wheat lands if made rich enough,—the clays and clayey loams,—guano has proved all-sufficient to take them at once from the lowest point of poverty and place them on a level with lands that had gone through a course of many years' improvement. We mean only as regards the one crop of wheat. We know a case where land that would produce but four bushels, was made to bring forty by a single dressing of guano. So well understood was its marvellous power in this respect that, in one of the early years of its use, when it was understood that the supply would run short,

the Peruvian Agent's place of business in Baltimore was thronged for many days with eager crowds of farmers and commission merchants, earnestly seeking to get their orders filled.

Indeed, the great mistake that our farmers have made in the use of guano, has grown out of its quality of producing wheat. They have been tempted to use it again and again in the production of exhausting crops, instead of applying it to the growth of such green crops, as, with good ploughing and general good management, would have improved their lands permanently.

Postal Law.—Publishers usually keep themselves posted in the laws of the Post Office, but their correspondents are not so familiar with them. We annex an extract that all should read and bear in mind:

"Publishers may enclose in their publications sent to regular subscribers, the bills for subscription thereto without any additional charge for postage, and may write or print upon their publications or upon the wrappers thereof, the name and address of the subscribers thereto and the date when the subscription shall expire, *but any other enclosure or* ADDITION *in writing or in print*, shall subject the same to letter postage, which shall be collected before delivery thereof."

Notice—The "American Farmer" for Three Months Gratis.

To every new subscriber beginning with January, 1869, we will send the "Farmer" for three months (October, November and December, '68) *gratis*. Those wishing to avail of this offer, must remit the amount of their year's subscription, $2, by the first of January next.

Demorest's Illustrated Monthly.—Every lady is, of course, curious to see the shifts and changes of the fashions, whether she may choose or not to be a fashionable lady.—Demorest furnishes them from the headquarters of fashion, in monthly instalments of beautiful colored illustrations, within the folds of a handsome magazine of entertaining and instructive literature. We hardly know how our ladies who affect this style of current literature could be better served than in this handsome magazine. Price $3.00. Address Demorest's Monthly, 473 Broadway, N. York.

Treatment of Weeds.

It is no insignificant part of good husbandry to know how to subdue the plagues and pests that encumber our fields in the shape of weeds and natural growths, making the ground unfit for better plants and driving them out. So we generally express ourselves, when, perhaps, it would be wiser to say that the unfitness of the ground induces the growth of the worse, because the better will not flourish there.

Our first State geologist and chemist, the late Professor Ducatel, advised the application of lime for the destruction of briers, pine bushes, sorrel and other plants which indicated acidity in the soil. The lime was to correct the qualities which favored such growth, and so prepare the way for fuller crops of more value to the cultivator. This was the well-known theory, too, of Mr. Ruffin, of Virginia, so distinguished for his valued contributions to Agricultural Literature.—But the subject is one that has received by no means the amount of attention which its importance demands—we mean the effect of the condition of the soil upon the growth of weeds, and how far its unfitness for plants of a higher civilization, so to speak, both as to natural constitution and present condition, encourages the inroad of the less valuable. We speak of them as intruders and usurpers of the place of their betters, when they only come in, perhaps, to occupy the places where their betters cannot thrive, and sometimes, perhaps, to prepare it for their occupancy.

We may illustrate this last thought with a plant which comes naturally on many of our lighter lands after the cultivation of the corn crop, and known familiarly as "wooly-head clover." It has little if any value for grazing or any other purpose, and may, in strictness, be called a weed, yet it has an office which has, indeed, been poorly appreciated, but of great intrinsic value. It comes naturally upon lands below the condition in which red clover will grow. When a field has been in corn, it makes its appearance in fall as soon as the summer drought is over, and after the first frost its little clover leaves turn of a crimson color, which make it very apparent, though diminutive. If not disturbed by the wretched practice of trying to raise a crop of small grain upon such lands, it comes up rapidly in spring, and by the last of June makes a dense covering, ripens and falls. It responds as kindly as red clover to the use of plaster.

When it falls, a growth of "crab-grass" comes up, and by September, in its turn, covers the ground. This "wooly-head clover" makes myriads of seeds, yet when the ground is brought up to the condition in which red clover flourishes well, it gives no trouble by its intrusion,

Our attention is drawn to this topic, however, by the following from a contributor to the Country Gentleman, from Cecil county, Md. He says: "In an article on the 'application of manure,' in the Country Gentleman of September 13, I find reference to the growth of sorrel. The idea is held forth that fresh-made manure promotes its growth, while we are left to infer that well-rotted manure does not." To all this the editors reply that sorrel is to be exterminated, "like other weeds," by ploughing and hoeing.

"It may be that sorrel does not abound all over the country. At least some writers speak as though in great ignorance of its character and habits. Perhaps, on the other hand, this plant in other parts of the country may yield to different treatment to that needful for its reduction here. But for the benefit of those interested, I will mention something of its history in these parts. Previous to the application of lime our lands generally abounded in sorrel. The grass fields on improved farms would be red with the plant in early summer. On unimproved lands it was found of a puny growth, but ready to expand with fresh vigor on the application of manure and culture. However, as the application of lime was a common thing in reclaiming our waste fields, we found the disappearance of sorrel to follow with uniformity. In one particular case, designing the improvement of a field without the application of lime, we were quite successful, except that the sorrel enjoyed the improvement as much as the corn we had planted, and refused to yield to the most vigorous ploughing and hoeing. After experimenting for three years in this way, we limed the fields to *subdue the sorrel*. As soon as the lime got into action, it disappeared."

Now, as to this last remark, we should have been very glad to know in what the "experimenting" in this case consisted *exactly*. If the field was "successfully" improved, as the writer says, and made a good crop of corn, was not that fact evidence of the presence of lime enough, so far as feeding his crops were concerned? Could a good crop grow without the lime? In that case, the lime applied answered some other purpose; that is, it so acted upon the soil, perhaps in the refining and preparing for use the elements present, as to fit it the better for clover and wheat, which need clean culture, and which, when the condition of the soil suits them, overrun the sorrel. But the sorrel in the case mentioned, disappeared "as soon as the lime got into action;" might it not be as soon as the "experimenting for three years" *got into action*?—that is, as soon as there was time for the manuring and ploughing, which we assume was done, had time to produce *their* legitimate effects. We think this very probable, especially if the "experimenting" consisted in ploughing well, and exposing well to the atmosphere, two or even three years in succession, by the cultivation of some hoed crops, which, in such cases, we maintain, is good husbandry. We do not say that the use of lime was not proper and wise treatment, but that it may not have been the cause of the effect for which it was intended, and which only *happened* to come after it.

And this brings us to what we remarked above. Sorrel will grow and flourish in conditions of the soil not suited to our better crops. It will grow on land which needs draining, and we have s en it disappear from such land after being drained, and the draining "got into action." We have seen it on new grounds full of crude vegetable matter, and disappear after several years of active cultivation. We have seen it on a stony knoll, which did not admit of perfect cultivation, and disappear and give way to a better growth immediately outside of such impediments. On the contrary, as in the case of the writer, who says it enjoyed the attempts at improvement as much as the corn, we have seen it rise through an accidental dressing of fresh building lime, which would be called a very heavy one, and flourish and increase; and the largest sorrel we ever saw grow was on the edge of a lately-burned lime-kiln, luxuriating apparently in conditions where wheat or clover would have perished.

These facts lead us to the conclusion that it is not lime *per se*, that is, not lime as an alkali, neutralizing acids in the soil, and so, as is generally maintained, destroying the proper food of sorrel and kindred plants, and killing them out; but lime so acting on the constituents of the soil, reducing and refining their mec..ani

cal condition, as to make them fit food for better plants. When the conditions become thus favorable, the latter takes the place of the former, not because the former are destroyed, but the latter endowed with greater energy.

The distinction is not a trifling one; if it be true, it will guide to other truths. A very apparent one is, that lime, however valuable to those who may get it at moderate cost, is not a necessity even where it may be very useful. Scarcely any arable soil, perhaps none, is so entirely destitute of it as not to be able to supply what a crop needs for food merely. In such it is not absolutely needful, if the mechanical condition which its action brings about can be substituted by other chemical agents, or by any process of cultivation. We think it may be substituted in great measure, if not entirely, by atmospheric agency brought to bear in thorough cultivation. In a degree by good ploughing and deep ploughing, necessary to be repeated in some cases, year after year; in greater degree if subsoiling can be added,—in still greater by thorough draining. We are getting to think, in fact, that it will be after awhile found out, that nearly all our boasted applications for fertilizing are but quackeries, compared with the great health-giving processes of opening up the earth to the action of sun and air.

Of the Action of Fertilizers.

We had occasion some months ago to notice the product in potatoes of very poor, sandy land, fertilized exclusively by the use of Peruvian Guano, and giving a very large income to the acre.

The result in this case is not in accordance with scientific teachings, or, at least, with the very prevailing notion, which took its start from teachers of science, that special applications, or such as supplied the apparently deficient and needed elements, should be the rule of application in the use of fertilizers. Under this ruling the favorite manure for sandy lands has been wood ashes, as containing potash, in which such lands were deficient; and the favorite manure for potatoes is wood ashes, because potatoes consume potash largely, as the ash of the plant plainly shows. A potash fertilizer, therefore, seemed doubly necessary in this case, yet no potash was used. and the result shows it as developed, not supplied, by the application of an ammonical fertilizer.

This is the fact, of so much interest to us, that we are not limited to special applications to make up deficiencies—not to restitution merely, but that there is a great reserve of plant food, lying deep, and bound up securely for a great future, to be yielded slowly only to intelligent workers of such mines of wealth. It is not our fault, indeed, that our lands are not worn out; we have done our best, but have been too ignorant to find out the cunning ways of mother earth in laying by for future use what our reckless folly would have wasted long ago.

A like result to that here noted is familiar to us in the use of many fertilizers. Years ago we applied lime, because we thought lime was needed to feed the plants; now we know that the valuable effects of that standard fertilizer are quite independent, perhaps, of any such use. It is rare to find a soil in which there is not lime enough, as measured by this standard. Its value consists in its effect upon the whole body of the soil, so to speak. It makes lighter, stiff clays; it gives consistency to sandy lands, and utilizes existing material which was before unfit for use; its effects are not so immediate and striking as those of some other fertilizers, but are slow and long continued; and in this fact results its effect upon the after crops of clover and grass, which, filling the soil with roots, and the material for humus, cause a permanent improvement that is vainly looked for in such a fertilizer as Peruvian guano, which spends its whole force on the first crop.

In plaster or gypsum, another form of lime, we have the same striking effect, arising, not from so much added material, but from the effect produced upon what we have already, in fitting it for use. This effect results in the growth of clover mainly, and this in additional action upon the soil, as well as in a large and direct supply of fertilizing matter.

The lesson we have to learn in this matter is, that it is not what we add but what we develop; and the comforting fact realized to us in the words, not often interpreted just in this way, that "the earth is full of the riches" which its Allwise Maker provided in the beginning, and which we may be well assured are not to be exhausted in the lifetime of a few generations. We have every inducement to husband these resources, but no need to be discouraged when we find ourselves, as so many of us do, in possession of lands, which,

bad as they seem to be, are no worse than others that a few dollars only, wisely expended, have put upon an equality with those that are most productive.

We get further confidence, too, in the fact that one fertilizer acts with great effect on this farm, and another on that. Lime, we know, seems to be a cure-all on some soils, and, where it seems to fail, plaster does the work as effectually, and much cheaper. Guano acts marvellously here, and fails elsewhere, and there, perhaps, super-phosphate is effective. Who shall say that there is any cultivated land that is not alive to one or other of these, or at least to something not yet brought to special notice.

The story of a Pennsylvania farmer is that of very many, and may yet be that of many more. "When I bought my farm," he said, "gutters were washed in various places, exposing a stony, barren soil, that looked like anything else than desirable farm land, so that an old farmer, on the day of sale, remarked, in reference to the gutters in the field, 'that it mattered little if all such land was washed away.' The land was taken in hand, ploughed and limed. From two ten acre lots the first crop of corn was only fifty bushels of sound corn, and a hundred bushels of buckwheat. The next season both of these lots were put in oats, and averaged forty bushels to the acre. I sowed clover and timothy on the oats, and rolled them in together. The season was favorable, and the seed took well. I mowed these seeds two summers in succession, and had a very good crop of hay. I then put five hundred bushels of lime on one of the fields, and in the spring planted it with corn, which yielded me four hundred bushels. No manure whatever was used for the corn in addition to the lime, excepting the corn was plastered in the hill. Oats, wheat (manured from the barn yard), and two crops of grass followed. The ground was then limed as before, and I gathered the ensuing season sixty bushels of corn to the acre. The other fields on the farm have been worked as this, with about the same result. There were about two acres of wheat on the place when I bought it, as all the manure made would not cover a greater extent than this, after sufficient was taken out for patato patch and garden. Two horses and three cows constituted about all the stock. Now there are five horses and upwards of twenty head of cattle kept. The manure they make is sufficient for twenty acres of ground annually. By the increased production of my farm, I have been able to pay my debts, erect new buildings, and to give my children a good sound education." This would not be worth telling as the story of one man, if it did not reveal what every man has an interest in knowing; the capabilities of a farm which, to one owner being worthless, to another became a mine of wealth, not by the lime used, but by the intelligence applied in working the mine.

Anne Arundel Co. (Md.) Agricultural Soc'y.

This society met in Annapolis on Saturday, Nov. 14th, Vice-President R. D. Woodward in the chair. The Annapolis Gazette says:

Dr. Henkle, the president elect, upon taking the chair delivered a most interesting address, which was listened to with unwavering attention. After thanking the society for the unexpected and unsolicited honor conferred upon him, he proceeded to dwell upon the *general* and *special* reasons why an agricultural society would be beneficial to the country. He said: "For the same general reasons that association, discussion, comparison of experiences, competition and a generous rivalry have been found the most efficient means of advancement in almost all the arts and sciences, the same means properly applied, will prove beneficial in the agricultural arts and sciences."

He dwelt upon the knowledge derived from oral instruction, lectures, &c.; adverted to the great good done by the School of Design and the annual exhibitions of the Maryland Institute; referred to what had been accomplished by our sister county, Frederick, and cited the fact that in those States and communities where the soil was most improved and farmers most prosperous, it was attributable in a great degree to the influences of agricultural societies. He alluded to the deranged system of labor and to the imperative necessity of co-operation and combination, and concluded his practical, instructive and interesting address thus: "Let us not lie supinely on our backs hugging the delusive phantom of hope, or, Micawber like, expecting something to turn up, but let us gird on our armor and go forth with energy and determination to fight our own battles, and as surely as effect follows cause, success will attend our efforts."

Col. Walsh, State Senator from Harford, who was present at the meeting, made an eloquent and stirring address in his usual happy manner.—*Daily Sun.*

Book Table.

Rinderpest—its History, Pathology and Treatment.—We have received from Hon. B. P. Johnson, Sec'ry of the N. York State Agricultural Society, a copy of the above work, published under the direction of the Executive Board of the New York State Agricultural Society. It contains a general outline of the statistics and pathological character of the disease, with suggestions as to remedial or preventive methods to be pursued in the treatment of the same, obtained from foreign papers and other sources, and, in addition, twelve pages of illustrations, showing the disease in its different stages, &c., lithographed in colors, with a description of the various figures presented. The work is one which has required much research and labor to obtain the facts given, and involved a large expenditure of money. The whole country should feel under obligations to the New York Board of Agriculture for the steps which they took to bring before the public so valuable a work, although it was intended for the special benefit of their own State.

DeBow's Review—a Monthly Magazine devoted to Agricultural, Commercial and Industrial Progress and Resources.—The November number of this well known Southern magazine exhibits its usual ability and more than usual variety of contents. $6 per annum, Address "DeBow's Review," 112 Poydras street, New Orleans.

Of the reprints of English Magazines by the Leonard Scott Publishing Company, 140 Fulton street, New York, we have *Blackwood's Magazine* for October; *The North British Review*, Quarterly, September issue; *The Edinburgh Review*, Quarterly, October issue. These famous magazines keep their readers thoroughly posted on all topics of current literary interest. The reading community are under great obligation to this Company for their prompt reprint here at very low rates.

A Guide to the Study of Insects, and a Treatise on those Injurious and Beneficial to Crops. By A. S. Packard, Jr. We have the third number of this valuable treatise, elegantly and profusely illustrated. It will be completed in eight or ten parts of about sixty pages each, at fifty cents a number. Address A. S. Packard, Jr., Salem, Mass.

The New Eclectic—a Monthly Magazine of Select Literature.—This excellent Baltimore magazine maintains fully in each succeeding number its high character. Subscription $4 per annum. Address "The New Eclectic," 49 Lexington street, Baltimore.

The American Journal of Science and Art, conducted by Professors Silliman and Dana, of Yale College. This old and well known magazine stands at the head of the scientific journals of the country. Published the first of every second month. Price $6. Address Silliman & Dana, New Haven, Conn.

The Galaxy.—This illustrated monthly has taken a very high stand among the issues of the periodical press, for the character and quality of its contents—each number containing about 140 pages of matter, above the average in quality of our monthly publications, and of great variety. The November number is quite equal to its predecessors. $4 per annum. Sheldon & Co., 498 and 500 Broadway, New York.

The American Naturalist, a popular Illustrated Magazine of Natural History, is a scientific monthly of very high character, and always full of interest to the student of that fascinating science. Issued by the Peabody Academy of Science, Salem, Mass. Price $3 per annum.

The Cornhill Monthly and Literary Recorder.—Published by D. Lothrop and N. D. Kemp, Boston. Price $1.

THE WONDERS OF MODERN CHEMISTRY.—About 100 tons of guano from Sombrera, in the West Indies, was reshipped at Southampton, last week, for Birmingham, to assist in the manufacture of Lucifer matches. Mixed with sulphuric acid, this guano is converted into an excellent manure. If, instead of being made into manure, the phosphoric acid is extracted from it, the extract is made to form the igniting property of Lucifer matches. Thus the same material that raises the food of man and beast, lights the cigar. It builds up the hay-rick and wheat-stack, and helps to form the instrument with which the incendiary burns them down. Wealthy farmers, and street Arabs, who sell half-penny boxes of lucifer matches, are often dependent on the excretions of sea-birds who frequent a desert rock in the West Indies.—*Ex.*

The Increase of Fish.

The State of Maryland has vast "water privileges," and in them mines of wealth that her people have not yet learned to work.—The Legislature has made a beginning in the matter of oysters, by providing for the due protection of property in them, and there will be, no doubt, abundant reward. There is a great, a profitable and growing trade in oysters.

We hope the same amount of interest will be taken shortly in the increase and protection of other fish. Our people have not yet realised that this branch of our water interests is as capable of profitable increase as the other. When they shall do so, they will give it their attention and reap a corresponding reward. We copy from the New York *Daily Times* the following article on the subject, showing what is being done in States North of us:

The legislation of the several New England States, preliminary and necessary to the restocking of the streams of that region with the fish which internal improvements and indiscriminate and unlawful fishing have united to drive away, is now in accord and complete. Massachusetts, New Hampshire and Connecticut have, by uniformity of new laws passed last year and this, regulated fishing in the Connecticut, Merrimack, Mystic, Pemigewasset, Ammonoosuck, Winnipisiogee, Baker's, and other rivers which flow through those States. Maine has also taken action in regard to the Kennebec and her other streams. Vermont has followed the example of the others. The right to take shad from the streams of the New England States is annulled for the next five years; the erection or maintenance of any dam or weir without providing a suitable fishway by which the fish can surmount the obstruction, and the setting and drawing of any net or seine in any New England stream, is positively prohibited, and is to be severely punished. The more material work of repairing the injuries done to the inland fisheries by the building of fishways in these States is already far advanced, several ladders having already been finished and many more are now in course of construction. The not less important work of restocking the streams by depositing ova artificially obtained, and fish artificially bred, has already been extensively carried out in the same States. Charles G. Atkins, one of the Maine Commiss'oners, turned loose forty thousand young shad in the Kennebec in May last; Dr. Fletcher and J. S. Robinson, of New Hampshire, have deposited two hundred and fifty thousand salmon and one hundred thousand trout in the Merrimack in the last two years, and Seth Green placed forty million of young shad in the Connecticut last June.—New England is, therefore, already well advanced to that former happy condition when, by her laws, she prohibited masters from surfeiting their apprentices on trout, and when the natural yield of each stream was an hundred fold greater than at present. The annual take of shad in all the rivers of the State of Connecticut is estimated at the present time at 628,500, and it falls in some years as low as one-fifth of this average. Thirty-two years ago the take in the Merrimack alone, from Lowell to the sea, was 365,000, and then there was not the incentive to fishermen of the present high prices. To the last condition of plenty the rivers of New England are expected to return, through the present wisely directed and energetic efforts of the Fish Commissioners.

New York and other Middle States, with larger streams, more vital interests in the restoration of their productive condition, and with far greater wealth, have as yet done nothing practical. Commissioners have been appointed and some laws passed, but no appropriations have been made. So little practical effort has been made or expenditure authorized that one of New York's Commissioners, Mr. Seth Green, an ardent angler and pisciculturist, has, in his enthusiasm, migrated, for the past two or three years, to the improved waters of the Connecticut river, and there, at his own expense, hatched and turned loose many millions of shad, a large proportion of which will come back from the sea to that stream in 1871 or 1872, weighing from five to ten pounds, to be caught by New England fishermen, and sold in the New York markets at fifty cents a pound! Pennsylvania, by an act of March 30, 1868, provided for the building of fishways in the Susquehanna, and appointed a Commissioner in the person of Col. James Worrall. A fishway has been constructed at Columbia at a cost of $5,000, and legal steps have been taken to compel the Pennsylvania Railroad Company to alter their dams at Middletown and Duncan's Island by the insertion of fishways; but

this is the extent of the operations there, and, indeed, in all the Middle States. Thus it will be seen that we are far behind the New England States in the restoration of the inland fisheries to their primitive condition.

"The Dinner Party Stakes."

The list of the "Dinner Party Stakes," to be run over a Baltimore race course in 1870, has been published, The list is accompanied by an explanatory letter from Dr. John B. Irving, of the American Jockey Club, to Messrs. Bowie & Hall, giving the details of the organization. There are twenty-nine entries of fillies and colts, representing twenty different owners and stables. The magnitude of the stakes, $1000 entrance, half forfeit, and the celebrity of the entries, bred from Lexington, Glencoe, Boston, Balrownie, imp. Lexington, imp. Australian, Eclipse and other noted strains, ensure success and promise a brilliant introduction to the revival of racing in this State. The ground which has been selected, says the Baltimore *Gazette*, known as the Pimlico property, which is also to be devoted to agricultural exhibitions, is not only near to the city of Baltimore and easy of access, but is also a central point as regards the population of Baltimore county. * * Baltimore, besides its business advantages and social attractions, has little to offer to the stranger. Until it is made more attractive in this respect it can never assume a metropolitan character, and every effort to give variety to the life of our visitors is undoubtedly an advantage to the community. There are some persons who may not approve of the establishment of a Jockey Club in the State, but there are hardly any who will not admit that in a practical point of view it is a very sensible thing to give liberal aid to the efforts of Governor Bowie and Mr. Frank Hall.—*Prince Georgian.*

Lazy traveller, thou wast slow to enter upon the way; the Way therefore comes to thee. Infirm traveller, thou wast unable to get into the way by any works, wealth, or care of your own, therefore Christ prevents thee, and finds out the traveller, who was lost.

Helena, Arkansas, is exhibiting fine white sewing silk, made from cocoons raised in Phillips county, in that State. It is said to be brilliant, soft and tough.

Sheep for our Surplus Lands.

The greatest want of old Virginia in the days before the war was efficient labor to work her great possessions of fertile land, to say nothing of the wealth of her mountains and her waters. How much greater is the want now, and when is it to be supplied? While these questions are not to be answered, we must do the best we can to occupy our surplus territory, and we repeat now the suggestion we have urged before of increasing such live stock as may make a profit from the land by grazing, and especially the flocks of sheep.

This is a timely suggestion now, from the fact which farmers who do not keep themselves very well posted are not perhaps informed of, viz: That there is now going on a perfect stampede from the wool-growing business in the West, under the influence of an unreasonable and unreasoning panic. The consequence is an extremely low price of stock sheep, and a state of things which favors very much the rise in price from a diminution of production. At the same time the operation of the tariff is slowly but surely affecting prices. The wool business, therefore, of itself, is likely to be profitable, and when combined with the profits of mutton raising, where convenient markets allow, makes the work of stocking lands with good sheep a promising business wherever we cannot cultivate with advantage. To get the benefit of this condition of things it should be taken hold of with promptness.

To show our readers how this matter stands in the West and Northwest, we quote from several of our exchanges.

The Ohio Farmer, of November 7th, has the following:

"The sheep flocks of Ohio are being slaughtered at a terrible rate. From all quarters we have the same reports that farmers are discouraged and disgusted with the sheep business, and are determined to get out of it in the same way that a warrior in old times untied a hard knot—by cutting their way out, in cutting the throats of the sheep. This is a very direct and sure way of settling the business in a way that it will stay settled, until the tide shall set in the other direction, when they will rally back into wool growing as recklessly as they now rush out of it, by cutting the throats of their cows, hogs, or

whatever else shall stand in the way of their their next change.

"We have the names of four men, in three townships of the county of Lorain, who are slaughtering fifteen thousand sheep at this time. The sheep are bought up in whole flocks—good, bad and indifferent—at an average price of about sixty-five cents per head. Among these are fat wethers and good breeding stock of fair grade merinos. In consequence of the early and abundant growth of fall feed since the rains of August, sheep are in good condition, and they are put into the cauldrons altogether, reserving only the hams of the best conditioned sheep to be cured and sold for meat. The principal object is the pelts, which alone pay a fair profit on the whole purchase, leaving whatever is made from hams and tallow as a surplus profit.

"We learn from our Western exchanges, that the slaughter is being carried on in that direction much after the same fashion as in Ohio."

So much for the Ohio Farmer. A Michigan correspondent of the Rural New Yorker says: "In a recent trip through Ohio and this State, I heard several persons declare that full blood merinos were selling in both of them, and in Illinois, at the prices of common sheep, and that there was a regular stampede among farmers generally to get rid of them. Mr. —— declared in my hearing that the immediate decendants of rams that had cost five hundred dollars a head in Vermont, could now be bought for five dollars, and he said that the best sheep of the State of New York could be bought for a mere song."

The editor of the department of sheep husbandry in that journal, Henry S. Randall, Esq., is perhaps more thoroughly informed in all matters relating to this subject than any other man in the country. In reply to the above he says: "That fine wool sheep, grade merinos of various qualities, have been sold at very low prices in several of the Western States, both last year and this, we are well aware. We have known cases where they have sold quite as low as common sheep. There has been a stampede from sheep husbandry by a class, and not a small class, of American farmers."

Again he says: "Among the raw recruits who plunged into the business during the war, the 'stampede' has been almost universal.—We hear now terrible stories of the number of good sheep that are to be 'pelted' (killed for their pelts) the present fall in the West. So far as good sheep are concerned, we imagine there is much exaggeration in these statements, but just as far as they are true, they will exhibit what would be a ludicrous, were it not so melancholy, specimen of absolute folly. We have known very good grade flocks sold in Illinois for less than one dollar a head—less than half the value of one year's fleeces at the then current prices."

Mr. Randall deprecates the folly of this panic among wool producers, but argues its beneficial effects upon those who hold on to their business, by the diminution of the supply of domestic wool. He shows further that our tariff on wool, while it saved the interests of our wool growers from complete destruction and overthrow, has caused the ruin of the fine wool growers of South America.

"Fine Buenos Ayres wools are now glutting the markets of Europe at half the prices ours are fetching at New York and Boston."

It is acknowledged that while the tariff has saved our wool-growing interests from ruin, "it has thus far failed to restore a full measure of prosperity to the fine wool-growing interest," but this is owing, Mr. Randall argues, to circumstances that are fast giving away in the course of time and events. "If," he says, "the people of the United States continue to wear coats on their backs, and breeches on their lower extremeties, there is no prospect of their resorting to flax, hemp, cotton, silk or the skins of animals as substitutes for wool—and in the palmiest period of our wool production we never, in a single year, grew enough of it to meet the domestic demand. The tariff has already conclusively shown that it shuts out competition, below the point of remuneration to our growers. The old stocks of foreign woolens in our markets have mostly melted away. Our government ready-made clothing shop, is, we believe exhausted. Neither famine nor short crops are pressing on large sections of our country. Industry has measurably revived in the South, and we believe will revive still further after the presidential election, whatever candidates succeed."

All this accords closely with a resolution passed unanimously by the National Wool-Grower's Association. The conviction is expressed that the present tariff is the best that can be devised for the good of all concerned "after its operations shall cease to be dis-

turbed by temporary and exceptional causes," and then follows this resolution:

"*Resolved*, That prominent among these disturbing causes was the over supply of woolens in our markets on the passage of said tariff, occasioned in part by the extraordinary stimulus given to domestic manufactures by the war, and still more by enormous and disproportioned importations of foreign goods, made in anticipation of an increase of duties, while the subject was pending in Congress. That this oversupply has been slowly reduced by consumption, owing to the necessity of the American manufacturer constantly to make additions to it, or stop his mills and throw his laborers out of employ; owing to the great quantity of surplus army goods thrown upon the market by the government at prices far below the cost of production; owing to short crops in the West and famine crops in the South in 1866, and the comparative failure of the cotton crop in 1867, which vastly diminished the usual means of purchase, and consequently the amount of consumption in those portions of the Union; owing to other obvious circumstances which have severely depressed and are continuing to depress trade in some of the States, and owing to high taxation and the general condition of monetary affairs, which have enjoined on the prudent portion of the rural population of our whole country the necessity of reducing their expense in this and all other practicable directions."—*Weekly Sun.*

FEEDING SHEEP FOR MANURE.—One of our nurserymen sent a man to Michigan to buy sheep to fatten this winter. He bought 400 good wethers, three and four year-olds, that average about 95 lbs. each, at a cost here of $3.10. His object is, to make manure.—He gets about a load of manure to a sheep, worth $4.00 or $5.00. He has adopted this plan three or four years, and his land already shows the effect. He thinks it far better manure than that which he draws from the city. I told him if he would use oil-cake instead of corn the manure would be richer still. There will be a great many damaged beans this year, which, if not mouldy, can be fed to sheep with advantage. And the manure from beans or peas is nearly as rich as that from oil-cake.—*J. Harris, in Agriculturist.*

Solomon's Island in the Patuxent.

We have very little doubt the day is not distant when the fishing and other riparian rights attached to the tide water lands of the Chesapeake bay and its tributaries will constitute their chief value, however fertile they may be or become by judicious farming. Here, from a New York paper, is a description of an establishment which is but the pioneer of a thousand others to grow up there: "On the recent return of the steamer Gazelle by the inland route from New York, she put into the Patuxent river to make a harbor during a stormy night. As morning dawned the captain observed a beautiful island a few miles distant, which he at first took to be a watering place. Curiosity led him to bear down to the island, where he landed. He was received by a gentleman on the shore, who informed him that the name of the place was Solomon's Island, of which he was himself the proprietor, and which he had purchased two or three years since. The island consists of about twenty-five or thirty acres of alluvial soil, a large portion of which is occupied by orchards of peach and fruit trees in a fine state of cultivation. The business, however, of the island is the packing of oysters for the California and Australia markets; for which purpose the most extensive arrangements have been constructed. Some thirty or forty sail of vessels are always employed during the season in bringing oysters from Tangier Sound to Solomon's Island. The oysters are taken from the wharf by a railway to the "opening house." In this building are placed long troughs for opening them, which can be made air-tight. The oysters are dumped into them from the cars; they are then closed, steam is turned on, the shells open by the heat, and thus there is much labor saved in the opening. By this method twenty-five hundred bushels are daily prepared for packing. They are put up fresh in sealed cans ready for shipping. The shells are then taken out and converted into lime; for which there is always a constant and remunerative demand. In preparing them for exportation are employed about two hundred persons, men, women and children. For their accommodation excellent cottages have been erected, which gave the island the appearance of a watering place, which deceived the captain of the Gazelle.—*Norfolk Journal, Oct. 7.*

Small Fruits.

Considering their means and opportunities, there is probably no class of our people that neglects so many opportunities for the improvement of the intellectual faculties, and the culture of so many things that have a direct tendency to exalt and calm the mind, as that of farmers. As a general rule, the mechanic, although not possessing half the pecuniary ability, supplies his family with amusements, accomplishments or graces, and the means of gratifying a healthy appetite, in a far greater degree than the farmer generally does. If the mechanic has but 20 square feet of land, he will crowd it with culinary plants and a succession of flowers, and send up a Concord or other grape vine to shade the kitchen windows from July suns, and make home attractive to the children, especially when the fruit hangs upon it in all its purple lusciousness. He tends the spot with scrupulous care. Not a weed defiles it. He gives each plant its own share of room, clipping an over-grown branch here, and encouraging a feeble bud there, until it stands in the beauty of perfection, and yields fruit, or flower, or root, up to its highest power of production. He keeps the soil so fine, porous and light, that it absorbs every dew drop that is distilled upon it—drinks every summer shower that comes to its surface, and carries its ammonia to the masses of roots which everywhere fill the ground. If the season is dry, his soil attracts moisture from the air above it every day. If wet, the air passes freely down among its particles, taking heat along with it and stimulating the halting roots.

His garden—if it may be called—is a little Eden. Every plant in it is as familiar as the faces around his fireside. He is in it when the dews glisten in the sun's first rays. Coming from school, the children pass to the house through the garden. Its attractions are stronger than those of the dinner table.—They pluck a fragrant leaf or flower to adorn the hair, or to present to mother or sister, and home, and dinner, and filial love, are all the better for it.

The *merchant* tires of the counting-room, the ledger, the vicissitudes in trade and the money market. He must watch with eagle eye and active brain every pulsation in commercial affairs; he must not let the golden moment slip, and the glittering profits fall into his neighbor's pockets; he must wait, and watch, and snatch the prize at once, or it is lost! So in his narrow circle, shut out from the fields of air, from the world of life and beauty, he continues his unattractive, daily toils. He longs for acres in the country, where he can feel the unpolluted breath of heaven on his cheek, hear the music of birds and running brooks, and the harps among the pines; where he can enjoy amplitude of thought and motion, and see Nature as she changes her scenes and sounds and forms.

Let us follow him into the country.—Where do we first find him? In the garden, where God first placed man! It is not so much a conviction of *utility* that leads him there, as a common instinct that the garden will best supply the first wants of the family; that there, the greatest amount and variety may be produced by the least labor. He is not, nor was the mechanic, a farmer or gardener, and yet it is with such that the best examples of skill and profit may be found. The yard of the mechanic, or the limited farm of the city merchant, may be visited and studied with advantage by the professed farmer, the proprietor and cultivator of extended fields. More actual money profit is frequently gained from the former, than in an equal number of the latter. Evidence of this is every year afforded at our annual shows. If we can succeed in producing per acre, at the same rate which they often produce per rod, we shall astonish the wisest committee that ever sat in judgment on the products of the soil.

Let us imitate their examples, in the cultivation of the *small fruits that are adapted to our climate.—New England Farmer.*

THE CURCULIO.—It is surprising that cultivators still continue awkward and expensive methods for killing this insect. We see it stated in the journals, as worthy of adoption, that the Oneida Community employ *five* men to clear their trees—one man holding each end of the two sheets, and a fifth, "armed with a six foot battering ram, well padded at the end, gives the trees several sudden jars," &c. Why not adopt the simple plan we have already figured and described in this journal, by which one man can work faster than the five; and one sharp stroke with a heavy hammer on the head of an iron spike be better than half a dozen "padded" thumps?—*Country Gent.*

Raising Figs in Ohio.

Gen. James T. Worthington, of Chillicothe, believes in cultivating figs in Ohio. We have seen them growing in his garden, and many visitors at our State Fairs have been regaled on this fruit from his generous baskets. In a late number of the Scioto *Gazette*, General Worthington urges the subject after this manner:

"The capabilities of our climate, owing chiefly to the extremes of heat and cold, about which so much complaint is made, are much greater than those of the European countries, from which most of us derive our ancestry. The capabilities are as yet imperfectly developed, because we naturally cling to the productions and the modes of culture inherited by our fathers, however unsuited to our surroundings. But the frequent failures of late years of some of the fruits on which we were wont to rely, notably apples and peaches, should make us turn to others, although heretofore unknown among us, if equally valuable, and now certain to bear regular crops in our climate.

Among these, after a trial of more than thirty years, the first of experiments, and latterly of complete success, I believe that the old-fashioned Biblical fig is one of the most promising.

The fig tree is hardy, healthy, a quick grower, suits our summer climate admirably, and is easily protected without removal through our severest winters; is a sure bearer and very prolific. It grows from the slip, like a currant bush, bearing fruit in three or four years from the slip, and I have had trees three years old bear a fair crop the year after they were transplanted.

After the trees are four or five years old, they produce from the same area, with less labor, a large and more certain crop in Southern Ohio, than either potatoes or tomatoes. The large yellow fig begins to ripen about the same time as the earliest summer apples—this year (1868) on the 14th of July.

The smaller purple fig begins to ripen about a month later, and has a succession of crops until October.

I mention these two varieties because they have succeeded best with me. I have this year, for the first time, dried a few of the large yellow figs, (the common fig of commerce,) and find them at least as good as those we import. These can be produced in our climate as cheaply as dried peaches, and much more regularly.

I like them best fresh from the tree and often breakfast on them. The demand by the family has been so great, that I have not thought of drying them until this season—when I have a cart load of ripe figs from an area of less than four square rods.

The fig is not likely to be grown in large orchards, but is eminently the fruit of the cottager and villager, and when its merits and adaptability to our climate become generally known, will be as regularly grown for family use, all over the Ohio Valley, as the potato or tomato.

A great obstacle to the introduction of new crops is the suspicion by the much abused public, that anything new is highly commended chiefly because of the profits to accrue to the commender. For the fig tree, I can safely say that it is so easily and surely propagated and multiplied, that although it will be very profitable to the cultivator, it is not likely to be so to nurserymen."—*Ohio Farmer.*

Improved Cattle for Maryland.—Mr. J. Howard McHenry of Maryland, who is now abroad, has sent to Mr. Thos. J. Hand, of Woodlawn, near Sing Sing, a consignment of Jersey cattle which are worthy of more than a passing notice. They include "Clement," a prize bull on the Island, for the farm of Mr. Ramsay McHenry, of Maryland; a prize cow for the same; "Lawrence," a remarkably fine bull, four months old, color French grey and fawn, black points, for Mr. Hand; four yearling heifers—two for Mr. Hand and two for Mr. McHenry; and two very handsome black point bull calves which are to be sent, one to Mr. B. L. Swann, Jr., of Oyster Bay, and one to Mr. J. W. McCulloch, of Englewood, N. J., where they will be kept for service until Mr. McHenry's return.

We have been thus particular in noting the destination of these animals, as from Mr. McHenry's qualifications for the purchase of this stock and from the excellence of the animals, they are likely to play an important part in the future breeding of this race.—*N. Y. Evening Post.*

The farm affords a greater field for study and reflection than almost any other department in a man's duties of life.

Butter Making.

1. For making good butter, the first thing is to have good sweet pasture, free from weeds or any growth that will give a bad taste to the milk. Good upland grass is better than coarse grass growing on wet places.—Some dairymen think that limed is better than unlimed land, but this is a matter of minor importance. Others regard the practice of sowing plaster in spring, and repeating it early in autumn, as tending to sweeten grass. 2. Good, well selected cows are the next requisite. 3. Perfect cleanliness, from beginning to end, is indispensable—the most so, perhaps, of any one thing. No dirt or dust must drop into the milk, for which reason the animals should have a clean place to lie on, and never be allowed to stand in mud or manure; vessels all thoroughly washed—scalded whenever necessary to preserve perfect sweetness—including pails, pans, pots, churns, workers and tubs or firkins. They must be first washed clean with *cold* water; for if hot water is used first, it will curdle the milk in the cracks or corners, and prevent its washing out. 4. A perfectly pure *air* is of great importance. Bad odors will taint butter. The dairy house should therefore be far away from manure yards and everything else of the kind. Keep tobacco smoke off the premises. 5. Let the butter be well worked, so as to press out all the buttermilk. It is impossible to have a good article if this is not done. Perhaps this is the most common cause of failure. If much milk is left in, it soon ferments and makes rancid and worthless butter. 6. In laying down for winter, use *new* firkins—never use them a second time; and pots or jars must not be used, if they have ever had bad butter in them, or pickles or anything else that will taint them—the taint can never be wholly removed. 7. The best dairy salt is important. Butter in hot weather must be covered and excluded from the air with saturated brine.—*Co. Gentleman.*

It is thought that the total hop crop of the country will reach one hundred and twenty-five thousand bales, of which only ninety-five thousand will be required for home consumption.

A farmer in Derbyshire, England, lately took a prize at a fair on three cabbages that averaged 72¼ pounds.

Lespedeza or Japan Clover.

Agricultural papers have been talking a good deal about this grass of late. It made its appearance, a few years ago, in some of the Southern States; but whence it came, or who brought it, was entirely unknown. It is said to spread with great rapidity on poor lands as well as rich, makes good hay, is a great grazing grass—cattle being very fond of it and fattening rapidly from the use of it. It will take root on land uncultivated—though it flourishes better, of course, by cultivation, and is such a vigorous, hardy, spreading grower that it will speedily take the land, stop gullies, cure galled hillsides, and smother all noxious weeds. These accounts struck us as somewhat extravagant and smacking a little of morus multicaulis; and as it was added that, once sown, it would abide forever, we feared that if not a blessing it would be a curse.

The last *Farmer's Gazette* published a letter from Mr. B. D. Lumsden, of Putnam county, Georgia, in relation to it, which removes our apprehensions. Mr. L. says it has never been cultivated in his region, but it grows wild; and, though it has been there only six years, it covers all the old fields and lands not in cultivation. He says it bears hard pasturage and will seed itself. All kinds of stock feed on it in preference to other grasses. It makes good hay. It is rapidly destroying broom-sedge and Bermuda grass and other pests. It comes very early in the spring, and thereby gets the start of all weeds. It is an annual and dies out each year. It may be easily destroyed. It grows on any soil. Bears a great abundance of seed, which, if turned under in fall, will come up next spring. It is supposed it would flourish in Virginia quite as well as Georgia. It has been tried with success in North Carolina.

The Rev. Mr. Mott, of that State, is an enthusiast about it, and has written several communications in commendation of it.—He thinks so highly of it that he is devoting his time to saving seed to supply the public demand. A dollar's worth will suffice to seed an acre. His address is: T. S. W. Mott, Sherrell's Ford, Catawba county, N. C.

Time for seeding is February or March.—Mr. Mott considers it not only a fine grazer, but a great improver of land.—*Richmond Whig.*

Wool in Vermont is quoted at 40 cts. per lb.

Little Things in Farming.

The whole success of a farmer hinges upon timely attention to little things. This, mainly, makes the difference between thrift and poverty. The philosophy of success is expressed in the old adage, "For want of a nail a shoe was lost; for want of a shoe a horse was lost; for want of a horse a man was lost." It is a little thing to keep accounts of the pecuniary transactions upon the farm.—A half hour Saturday evening would enable farmers to know just how they stand with the world. Yet, we suspect half of the men who cultivate the soil never make an entry in a book, and for want of this, the accounts runs up fearfully at the store, and many articles of luxury are purchased for which they are unable to pay at the end of the year. Debt accumulates, the farm is mortgaged, and finally lost, for want of a little paper and ink. It is a little thing to put up a tool in its place when not in use. Yet many have no tool-house, or place of shelter for any implement or vehicle. Things are left where they were last used, the plough in the field, the cart in the yard, the chains in the stable, the harness in the wood-house, the ax at the woodpile, and the rakes in the corn crib. Many do not even house the expensive implements they have bought, and reapers and thrashers are treated like old ploughs and harrows. The parts made of iron and steel grow rusty, and the wood decays. A machine that is good for thirty years with proper care is used up in five by abuse. It is a very little thing to turn a nut that is loose. Yet for want of the tightening the nut is lost, the bolt comes out, and the loaded wagon breaks down on the way to market, and a whole day for man and team is lost. It is a little thing to keep a horse properly groomed, yet for want of clean fetlocks the skin cracks and the horse is lame; and the owner loses the use of him for months or weeks. Ventilation is a small affair, yet for the want of it the health of stock in stables suffers severely, and disease sets in. It is a small affair to provide good seed at the beginning of the year, but the whole success of the season depends upon it. It is an easy thing to deal fairly with your neighbors and make a name that is better than "precious ointment." Many cheat on small occasions, do not deliver what they sell, and get a reputation for meanness that stands in the way of their success.—*Farmer's Home Journal.*

HARDENING THE MOLDBOARD OF PLOUGHS.—A new method has been discovered for the manufacture of the moldboard of ploughs, which gives them all the hardness and temper of steel, in combination with the toughness of iron. The moldboard (good iron) is heated and dipped into molten iron. It remains there ten seconds, when the two surfaces become heated to a white heat, while the center is not heated through. It is then immediately dipped into water; the surfaces come out harder than the highest tempered st el, while the interior is still iron and retains all the toughness and strength of iron. The advantages claimed for this invention is, that the ploughs made by this process will take the finest and hardest polish, while they will be tough enough to endure any reasonable knocking about in stony soils.

We find the above in one of our exchanges. What is the new method? and where are such ploughs manufactured? We have had several inquiries about this matter.—*Farmer's Home Journal.*

MARKETING STRAWBERRIES.—While many superficial or careless managers cannot send strawberries fifty miles in good saleable condition, J. Knox of Pittsburg sends his four hundred miles, and receives double and triple prices for them. The fruit is allowed to ripen before picking: Mr. Knox says: "We allow the fruit to mature enough for our own table before it is gathered for market." It is handled with great care, carefully assorted, and as carefully packed in neat boxes. So largely and finely grown are the berries, that ten fill a pint box. He has sent the Jucunda to New York city on Monday, reaching there on Tuesday, and kept it until the following Friday and Saturday, and sold then at higher prices than other berries brought, raised in the immediate vicinity of the city. So much for doing a thing well.—*Co. Gent.*

There is some virtue or other to be always exercised, whatever happens; either patience or thanksgiving, love or fear, moderation or humility, charity or contentedness.

A. C. Larcomb, of Portage, O., has killed from less than half an acre of potatoes, four bushels of potato bugs, by actual measurement.

SUNDAY READING.

The zeal of our Lord was wise, temperate, and substantial; such as did not spend itself in a furious contention for, or opposition to, things of an indifferent nature; but it quietly submitted to the customs of His country, and of the church, in which He was born, and educated; and all His invectives were against hypocrisy and immorality, which were the only things to which His noble and generous temper could never be reconciled.

The angels always behold the face of the Father, and yet they come to us; for by a spiritual presence they come forth to us, and yet by internal contemplation keep themselves there, whence they come forth; for they come not so forth from the Divine vision, as to hinder the joys of inward contemplation.

Though thou givest all thou hast for charity sake, and yet retainest a secret desire of retaining it for thine own sake, thou rather *leavest* it, than *forsakest* it. He that hath relinquished all things, and not himself, hath forsaken nothing. He that sets not his heart on what he possesses, forsakest all things, though he keep his possessions.

If the old Law strictly commanded not to neglect the ox of our enemy, when he is found strayed, but to bring him back to his master, what pardon ought he to expect who neglects and abandons, not a strayed ox of his enemy, but the soul of his brother Christian, lost in sin?

Reproof and good counsel must be like our alms, in *secret;* so as, if possible, one ear or hand may not be conscious to the other. It is the best remedy, that is least seen, and most felt.

In many passages of the Scriptures, Peter appears as the representative of the Church, especially in that place where it is said, "I will give unto thee the keys of the kingdom of heaven." Did Peter then receive these keys, and Paul not receive them? Did Peter receive them, and John and James not receive them? and the rest of the Apostles? or are not these keys lodged in the Church? But since Peter represented the Church, that, which was given to him, to the Church it was given.

The more we lose here, the greater joy we shall have there; the more we suffer, the greater triumph; for corruptible dross, we shall find incorruptible treasure; for gold, glory; for silver, solace without end; for earthly houses, eternal palaces; mirth without measure, pleasure without pain, felicity endless:—*summa*, we shall have God the Father, the Son, and the Holy Ghost.

There is a beauty in the name, appropriated by the Saxon nations to the Deity, unequalled, except by His venerated Hebrew appellation. They called Him "God," which is literally "good;" the same word thus signifying the Deity, and His most endearing quality.

A self-searching Christian is made up of humility and meekness. If thou wouldest find much peace and favor with God and man, be very low in thine own eyes. Forgive *thyself* little, and *others* much.

Men do not consider religion as a remedy which the mercy of God provides for all the miseries of our condition. They view it, not as His manifestation o grace and good will to men, but rather as a system of painful duties, which he requires them to discharge.

Mortify your sin betimes, for else you will hardly mortify it at all. Remember that the snail outwent the eagle, and won the goal, because she set out betimes.

Though I have not been rich, I am not on that account less responsible, for neither were the Apostles rich, who forsook their all before me; but that man renounces the world, who renounces both his possessions in it, and his expectations from it.

Fasting directly advances towards chastity, &c., but then it is not the fast of the day that can do this; it is not an act, but a state of fasting, that operates to mortification.

Grief and discontent have generally their foundation in desire, so that whosoever can obtain the sovereignty over his desire, will be master of his happiness.

If thou art rich, strive to command thy money, lest she command thee; if thou know how to use her, she is thy servant; if not, thou art her slave.

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